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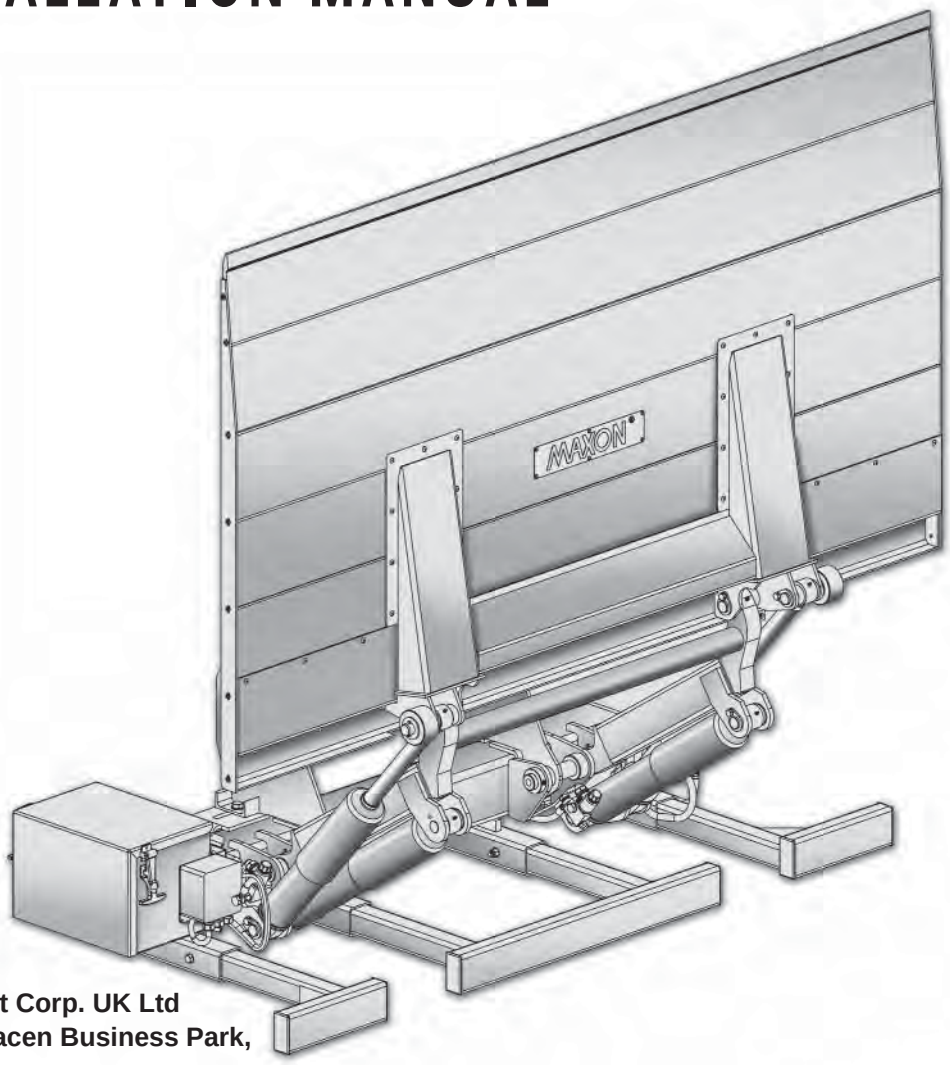
MARCH 2013

MAXON®

MAX10C, MAX15C & MAX20C

INSTALLATION MANUAL



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Comply with the following WARNINGS and SAFETY INSTRUCTIONS while installing Liftgates. Refer to WARNING, CAUTION, and SAFETY INSTRUCTIONS decals on Liftgate.

⚠ WARNING

- Do not stand, or allow obstructions, under the platform when lowering the Liftgate. **Be sure your feet are clear of the Liftgate.**

- **Keep fingers, hands, arms, legs, and feet clear of moving Liftgate parts (and platform edges) when operating the Liftgate.**

- **Correctly stow platform when not in use. Extended platforms could create a hazard for people and vehicles passing by.**

- **Disconnect Liftgate power cable from battery** before repairing or servicing Liftgate.

- If it is necessary to stand on the platform while maintaining the Liftgate, keep your feet and any objects clear of the inboard edge of the platform. Your feet or objects on the platform can become trapped between the platform and the vehicle body.

- Never perform unauthorised modifications on the Liftgate. Modifications may result in early failure of the Liftgate and may create hazards for Liftgate operators and maintainers.

SAFETY INSTRUCTIONS

- Read and understand the instructions in this **Maintenance Manual** before performing maintenance on the Liftgate.

- Before operating the Liftgate, read and understand the operating instructions in **Operation Manual**.

- Comply with all **WARNING** and instruction decals attached to the Liftgate.

- Keep decals clean and legible. If decals are illegible or missing, replace them. Free replacement decals are available from **Maxon Customer Service**.

- Consider the safety and location of bystanders and location of nearby objects when operating the Liftgate. Stand to one side of the platform while operating the Liftgate.

- Do not allow untrained persons to operate the Liftgate.

- Wear appropriate safety equipment such as protective eyeglasses, faceshield and clothing while performing maintenance on the Liftgate and handling the battery. Debris from drilling and contact with battery acid may injure unprotected eyes and skin.

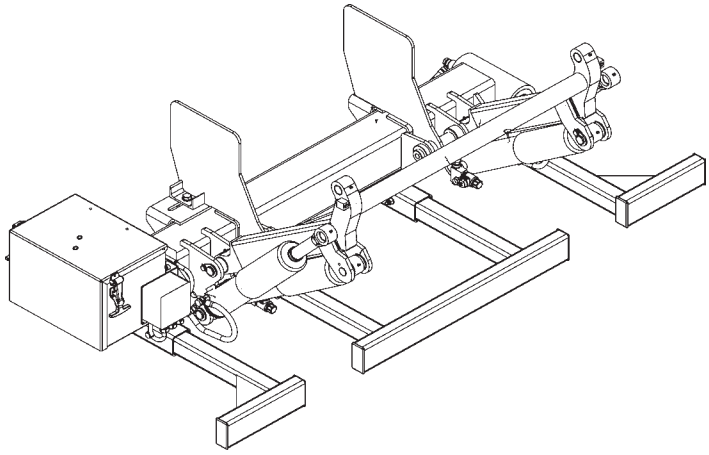
- Be careful working by an automotive type battery. Make sure the work area is well ventilated and there are no flames or sparks near the battery. Never lay objects on the battery that can short the terminals together. If battery acid gets in your eyes, immediately seek first aid. If acid gets on your skin, immediately wash it off with soap and water.

- If an emergency situation arises (vehicle or Liftgate) while operating the Liftgate, release the control switch to stop the Liftgate.

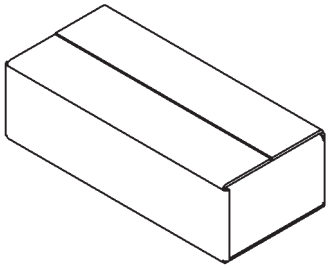
- A correctly installed Liftgate operates smoothly and reasonably quiet. The only noticeable noise during operation comes from the power unit while the platform is raised. Listen for scraping, grating and binding noises and correct the problem before continuing to operate Liftgate.

- Use only **Maxon Authorised Parts** for replacement parts. Provide Liftgate model and serial number information with your parts order.

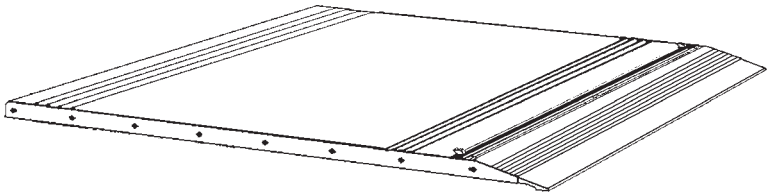
MAX10C, 15C & 20C INSTALLATION COMPONENTS & KITS



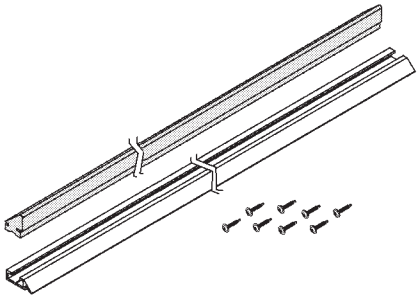
HYDRAULIC LIFT MECHANISM WITH BUMPER



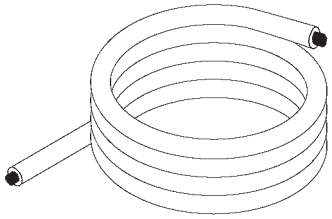
BOXED SMALL ITEMS KIT (DOCUMENT KIT & PARTS STORES)



PLATFORM ASSEMBLY (ALUMINUM WITH DUAL CART STOPS SHOWN)



FLOOR SEAL KIT (LARGE ITEMS KIT) P/N PL00133



2 GA BATTERY CABLE, 20M LG. (LARGE ITEMS KIT) P/N 226781

VEHICLE REQUIREMENTS

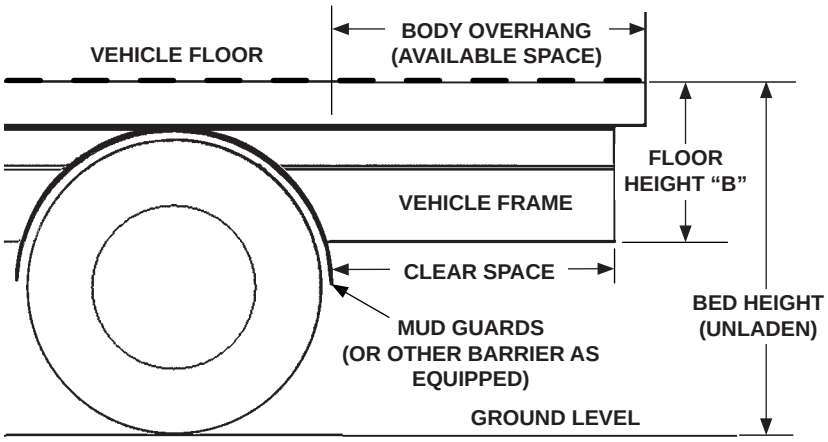
CAUTION

The sliding axle assembly on a trailer can collide with a Liftgate mounted on the slide rails. To prevent damage to Liftgate and trailer, install stops on the slide rails to keep the sliding axles from hitting Liftgate. Refer to Liftgate clearance dimensions in this section of the manual.

NOTE: Make sure vehicle is parked on level ground while verifying dimensions, preparing vehicle, and installing Liftgate.

NOTE: Dimensions are provided as reference for fitting Liftgate to vehicle body.

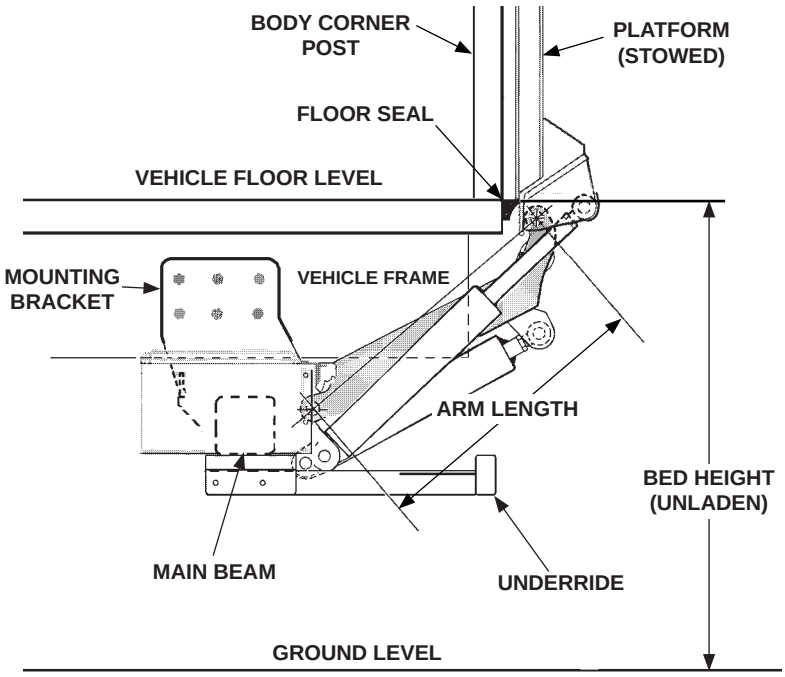
1. Check and record dimensions of vehicle where liftgate will be mounted **(FIG. 5-1)**.



VEHICLE DIMENSIONS
FIG. 5-1

2. Measure length of lift arms **(FIG. 5-2)** to verify that the length is optimum for the range of bed heights and clearances shown in **FIG. 6-1 and TABLE 6-1**.

3. Use **FIG. 6-1** and clearance dimensions in **TABLE 6-1** to determine the initial mounting position for Liftgate.



MEASURING ARM LENGTH
FIG. 5-2

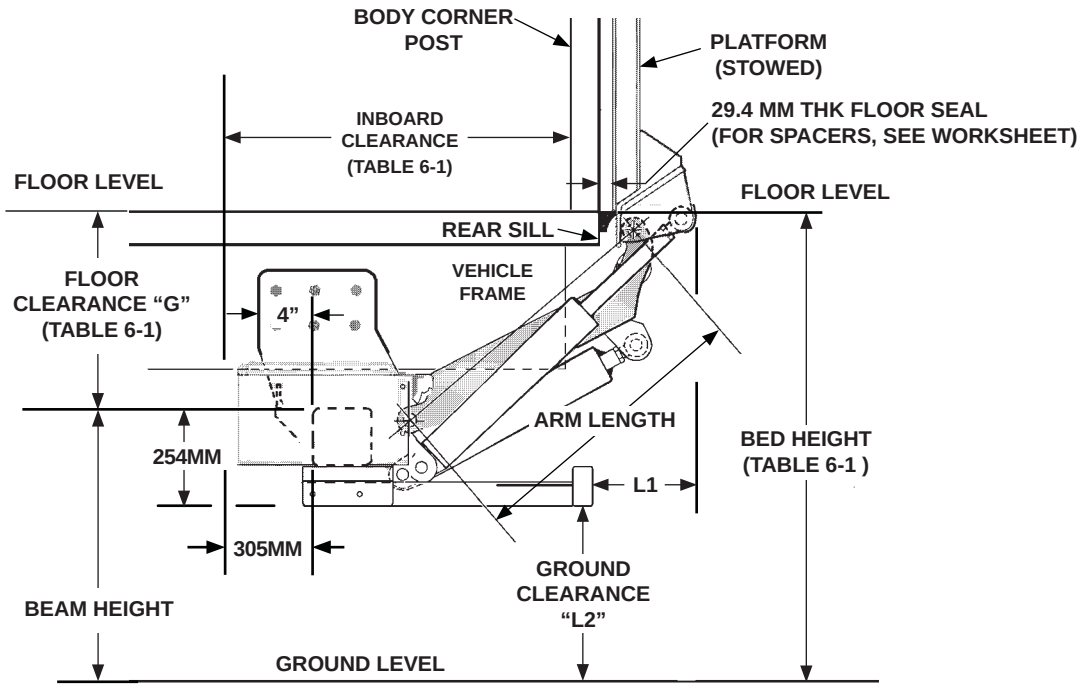
VEHICLE REQUIREMENTS - Continued

SHORT LIFT ARM (750 MM)		
MAX. BEAM HEIGHT = 695 MM		
MAX. BED HT. (UNLADEN)	**MIN. FLOOR CLEARANCE**	**INBOARD CLEARANCE**
1260	564	1024
1251	553	1030
1242	543	1041
1232	536	1051
1223	526	1059
1213	516	1069
1204	505	1076
1194	495	1084
1183	485	1095
1173	475	1097
1163	465	1110
1152	454	1118
1142	445	1126
1130	434	1132
1120	421	1140
1109	411	1148
1098	400	1153
1087	389	1161
MIN. BED HT (LADEN)= 950 MM		

MEDIUM LIFT ARM (875 MM)		
MAX. BEAM HEIGHT = 781 MM		
MAX. BED HT. (UNLADEN	**MIN. FLOOR CLEARANCE**	**INBOARD CLEARANCE**
1437	654	1107
1427	643	1118
1415	632	1130
1405	622	1140
1394	612	1148
1381	599	1161
1368	589	1171
1359	576	1181
1349	564	1191
1335	553	1199
1323	541	1208
1310	527	1219
1298	516	1227
1284	502	1237
1272	491	1245
1259	476	1253
1247	465	954
1234	451	962
MIN. BED HT (LADEN)= 1075 MM		

LONG LIFT ARM (1000 MM)		
MAX. BEAM HEIGHT = 787 MM		
MAX. BED HT. (UNLADEN	**MIN. FLOOR CLEARANCE**	**INBOARD CLEARANCE**
1534	745	1181
1521	733	1207
1508	721	1219
1495	708	1229
1483	695	1245
1470	683	1254
1457	670	1264
1445	657	1278
1430	643	1288
MIN. BED HT (LADEN)= 1329MM		

LIFTGATE CLEARANCE DIMENSIONS IN INCHES
TABLE 6-1



LIFTGATE CLEARANCE DIMENSIONS
FIG. 6-1

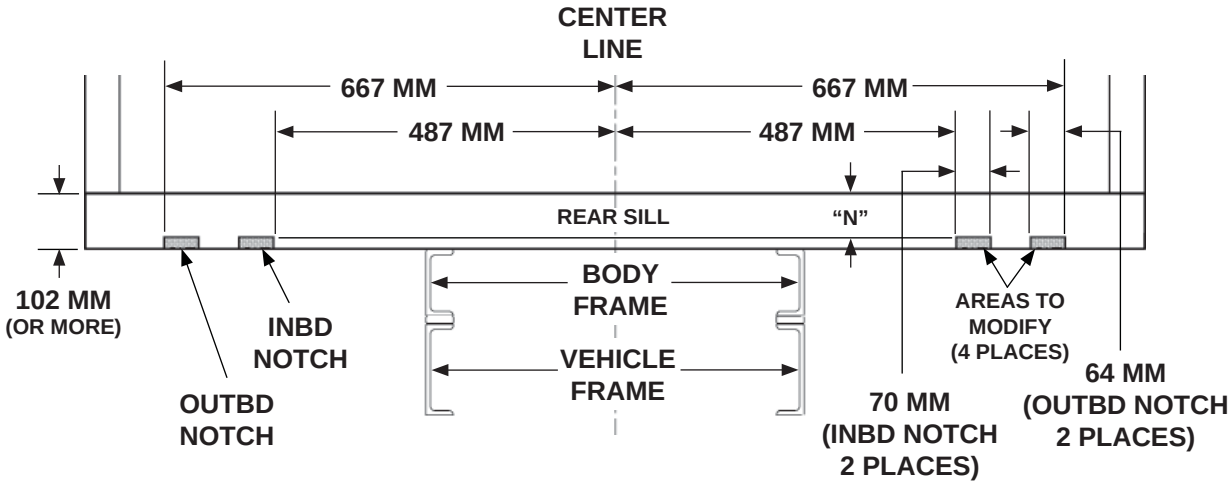
VEHICLE REQUIREMENTS - Continued

CAUTION

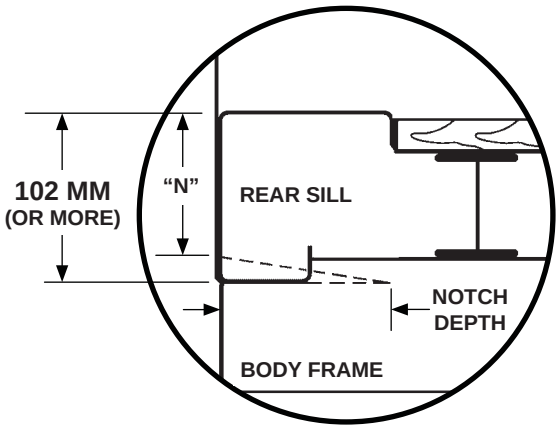
- **To prevent Liftgate and/or vehicle from being damaged, check for possible interference from rear sill that is 102 mm or more in height. Lift arms and/or tilt cylinder rods could hit the rear sill when platform approaches bed height.**
- **Installer is responsible for ensuring that vehicle body and frame modifications do not adversely affect the integrity of the body and frame.**

NOTE: Rear sill height and resulting clearance for tilt cylinder rods and lift arms can differ greatly from installation-to-installation. Height, depth, and angle of notches will vary for different vehicle bodies and lengths of lift arms.

4. If rear sill is likely to interfere with tilt cylinder rods and/or lift arms, measure and mark the areas to be modified on the rear sill as shown in **FIG. 7-1**. Dimension "N" is the distance to top of the notch. A side view of notch(s) is shown in **FIG. 7-2**.



FRONT VIEW - REAR SILL NOTCH POSITIONS (LIFTGATE NOT SHOWN)
FIG. 7-1



RH SIDE VIEW - REAR SILL NOTCH
FIG. 7-2

STEP 1 - RUN POWER & GROUND CABLES

⚠ WARNING

Never route an energized wire. Make sure the vehicle battery is disconnected. Always route electrical wires clear of moving parts, brake lines, sharp edges and exhaust systems. Avoid making sharp bends in wiring. Keep adequate distance between (+| and (-) cables that connect to battery. Attach securely. If drilling is necessary, first check behind the drilling surface so you do not damage any fuel lines, vent lines, brake lines or wires.

NOTE: The fuse end of the red power cable will be connected to (+) terminal on vehicle battery.

1. Run the 2 gauge live **(+)** cable and black earth **(-)** cable (Kit items) along vehicle frame from the vehicle battery to the rear of vehicle where Liftgate will be mounted. Clip cables to vehicle frame at intervals shown **(FIG. 8-1)**. Leave sufficient cable to reach the power pack on the Liftgate.

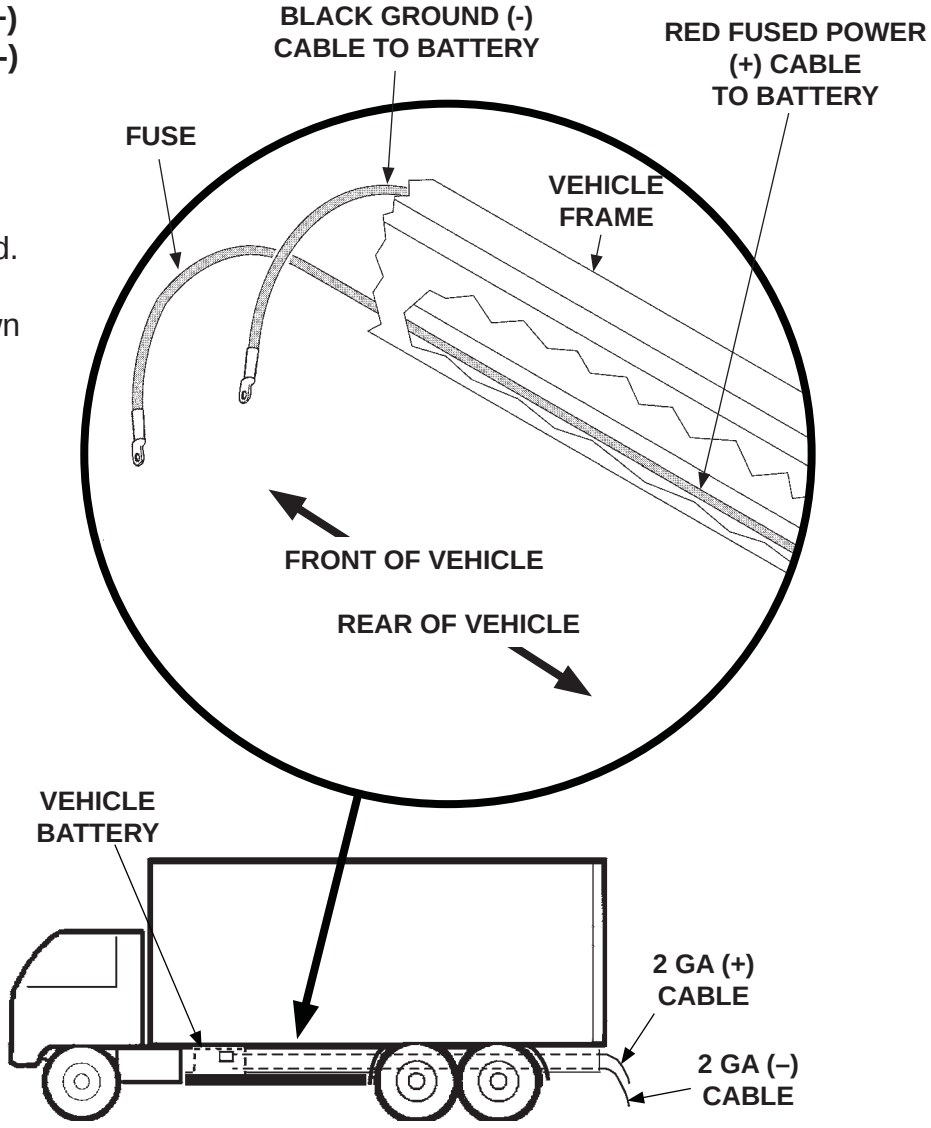


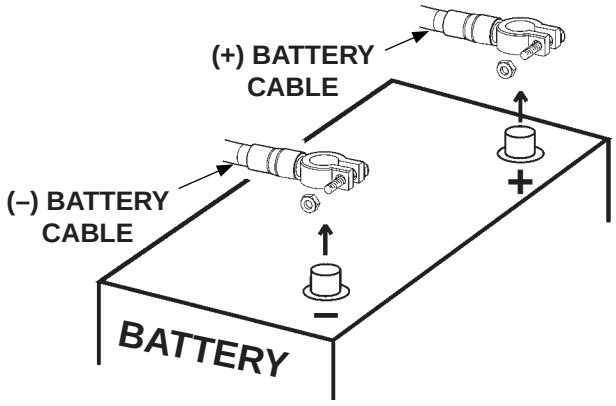
FIG. 8-1

STEP 1 - RUN POWER & GROUND CABLES - Continued

⚠ WARNING

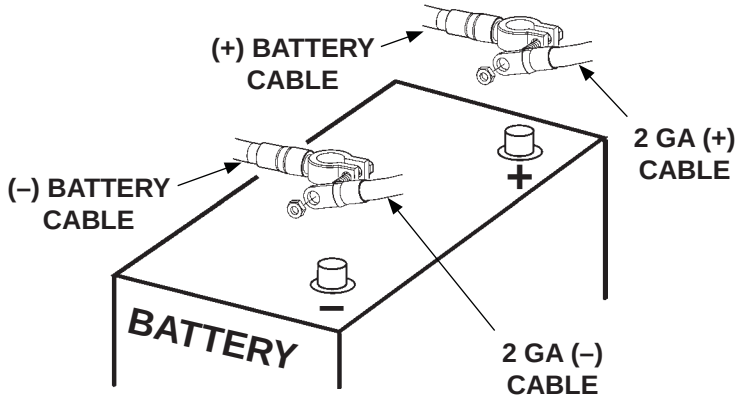
Prevent possible injury and damaged equipment. Ensure battery cables remain disconnected from battery until safe to reconnect. Reconnect battery cables only as instructed in this manual.

2. In the vehicle battery compartment, disconnect the **(+)** and **(-)** battery cables as shown in **FIG. 9-1**.



DISCONNECTING BATTERY CABLES
FIG. 9-1

3. Connect the **(+)** power cable and **(-)** ground cable to the battery cables (disconnected from battery) as shown in **FIG. 9-2**.



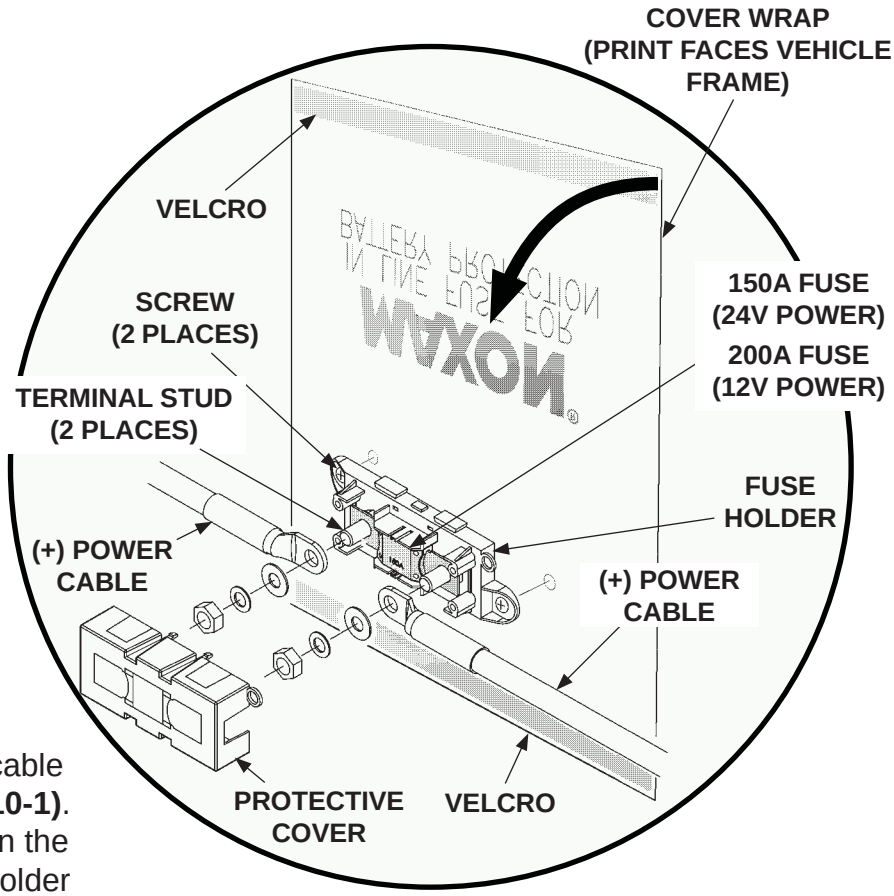
CONNECTING (+) POWER & (-) GROUND CABLES TO DISCONNECTED BATTERY CABLES
FIG. 9-2

STEP 1 - RUN POWER & GROUND CABLES - Continued

⚠ WARNING

To prevent personal injury and damage to equipment, tail lift battery must be disconnected while fitting the in-line fuse**.**

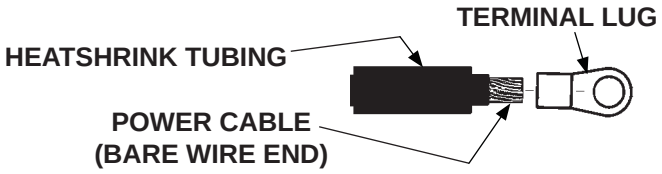
4. Fit the in-line fuse holder (parts stores box) as follows. See **FIG. 10-1** for position and electrical connections. Ensure fuse holder is positioned so **(+)** power cable will reach battery and fuse holder. Use self-tapping screws to attach fuse holder and cover wrap (parts stores box) to vehicle frame near battery.



CONNECTING IN-LINE FUSE
FIG. 10-1

5. Position tail lift **(+)** power cable next to fuse holder **(FIG. 10-1)**. Cut cable midway between the 2 terminal studs on fuse holder **(FIG. 10-1)**.

6. Strip insulation from the 2 cut cable ends. Then crimp or solder a lug to each cut end **(FIGS. 10-2 and 10-3)**.



PLACING TERMINAL LUG & HEATSHRINK TUBING ON POWER CABLE
FIG. 10-2

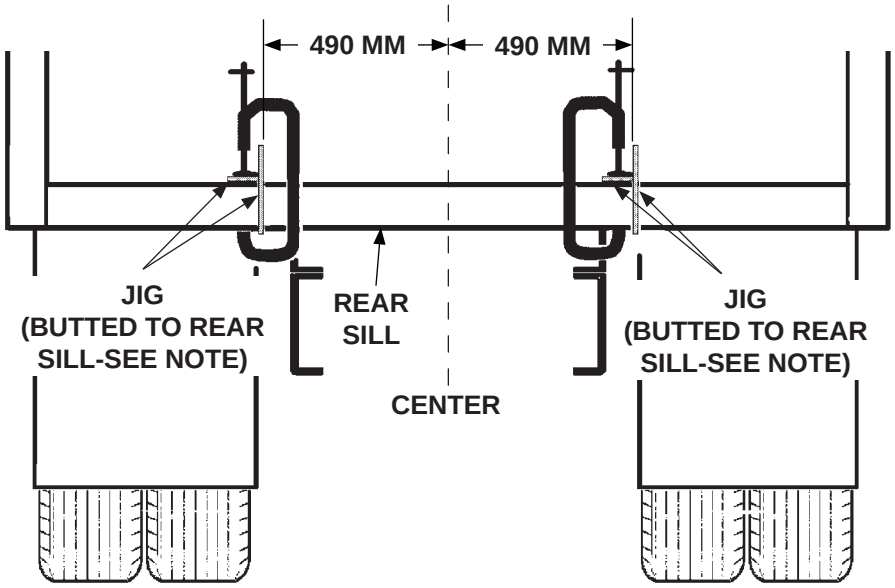
7. Ensure correct fuse is installed **(FIG. 10-1)**. Then close the protective cover wrap **(FIG. 10-1)**. Use the Velcro strips on cover wrap, to secure it around fuse holder.

TYPICAL POWER CABLE WITH TERMINAL LUG INSTALLED
FIG. 10-3

STEP 2 - FIT LIFTGATE TO VEHICLE

NOTE: Ensure both installation jigs fit snug against the top and side of the rear sill. If rear sill spacers are necessary**,** ensure correct thickness of spacers is fitted in snug between the rear sill and jigs. Lift mechanism must be centered within the opening on the rear sill.

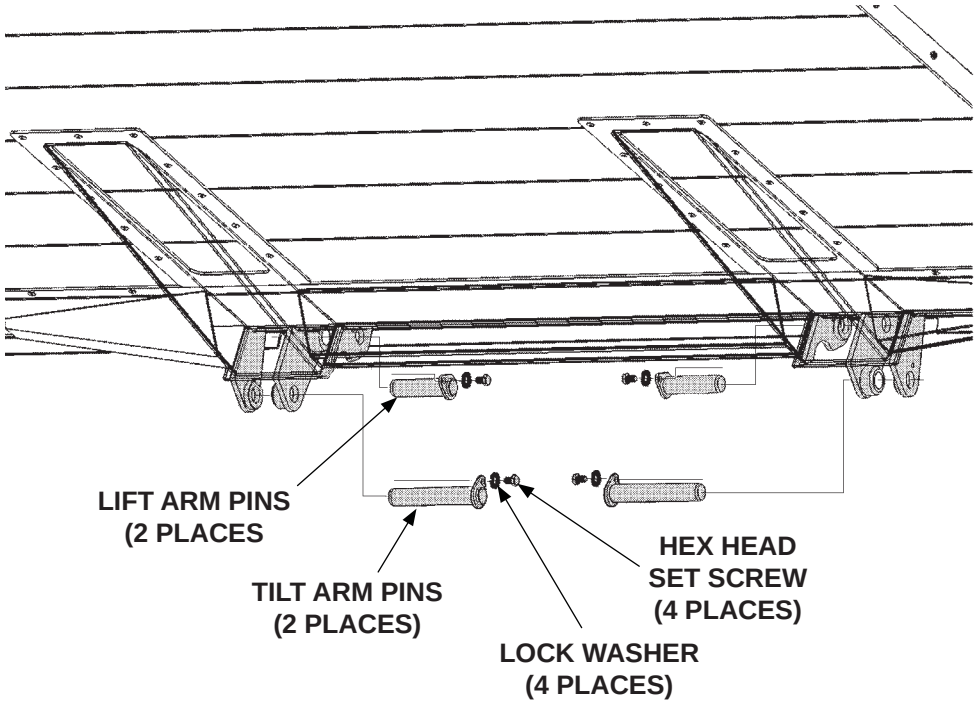
1. Position the 2 installation jigs (Kit items) on the rear sill of the vehicle body as shown in **FIG. 11-1**. Clamp or tack-weld jigs to rear sill.



INSTALLATION JIGS POSITIONED ON REAR SILL OF VEHICLE BODY FIG. 11-1

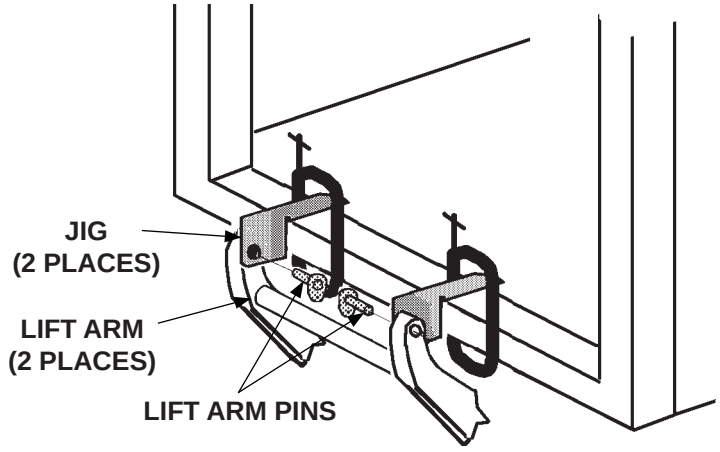
STEP 2 - FIT LIFTGATE TO VEHICLE - Continued

2. Raise and support platform enough to remove the 2 lift arm pins and 2 tilt arm pins **(FIG. 12-1)**.



REMOVING LIFT ARM & TILT ARM PINS PROVIDED WITH PLATFORM
FIG. 12-1

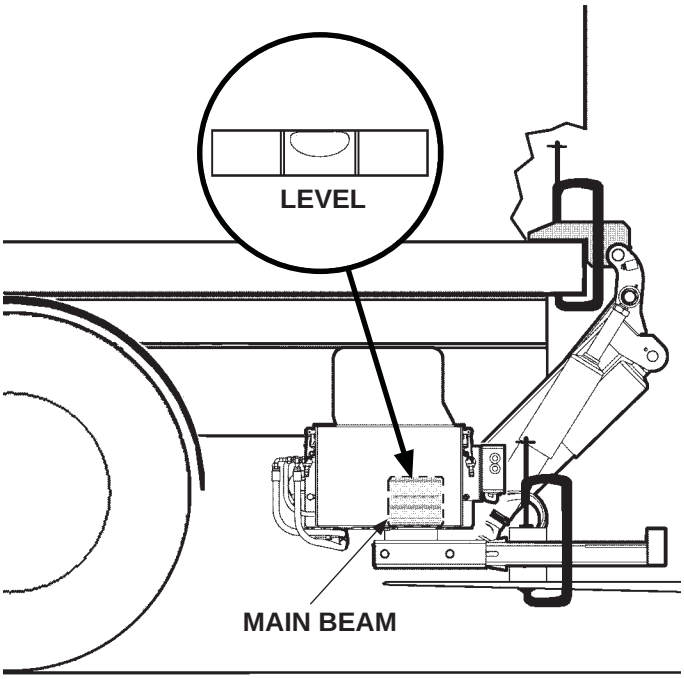
3. Use the 2 lift arm pins, removed from platform, to pin each lift arm to a jig clamped to rear sill **(FIG. 12-2)**.



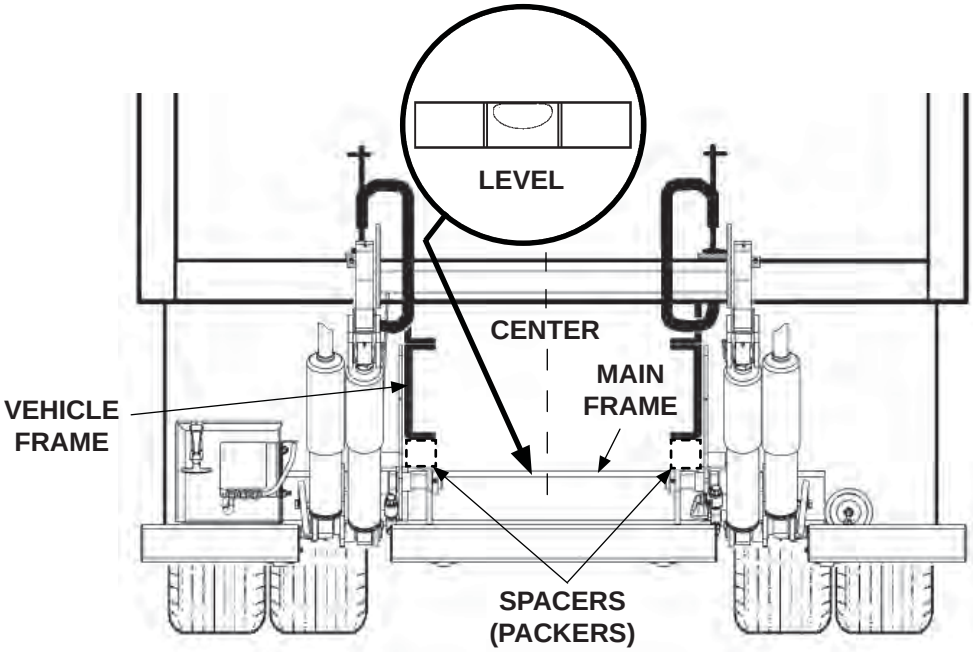
PINNING LIFT ARMS TO JIGS
FIG. 12-2

STEP 2 - FIT LIFTGATE TO VEHICLE - Continued

4. Position the liftgate as shown in **FIGS. 13-1 and 13-2** and the applicable dimensions from **VEHICLE REQUIREMENTS**. Keep liftgate from moving out of position while bolting mounting plates to vehicle frame.



LIFT MECHANISM POSITIONED ON VEHICLE
FIG. 13-1

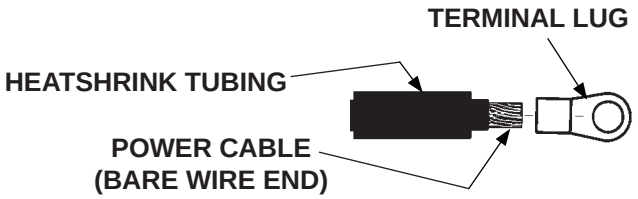


LIFT MECHANISM POSITIONED ON VEHICLE
(FORKLIFT NOT SHOWN)
FIG. 13-2

STEP 2 - FIT LIFTGATE TO VEHICLE - Continued

NOTE: The external control is pre-wired to electrical controller box. This control will be operable when power and ground cables for the liftgate are connected correctly in the pump box and at the battery. External control can be used to help adjust the position of lift mechanism and tilt arms when connecting to platform.

5. Remove pump cover. Run the **(+)** power cable through the sealing grommet to power unit **(FIG. 14-2)**. Leave enough cable to reach starter motor solenoid without putting tension on cable (after connection). Then run **(-)** power cable through sealing grommet to power unit **(FIG. 14-2)**. Leave enough cable to reach motor **(-)** terminal stud without putting tension on cable (after connection).



PLACING TERMINAL LUG & HEATSHRINK TUBING ON POWER CABLE
FIG. 14-1

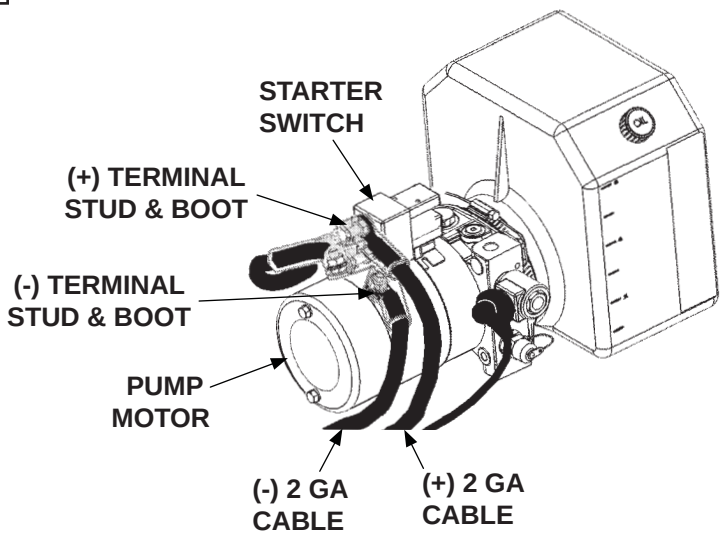
6. Put heatshrink tubing (Parts Box item) **(FIG. 14-1)** over each bare cable end (leave room for terminal lug). Crimp a terminal lug (Parts Box item) on each bare end of power cable **(FIG. 14-1)**. Then shrink the heatshrink tubing over the barrel of the lug **(FIG. 14-2)**.

TYPICAL POWER CABLE WITH TERMINAL LUG INSTALLED
FIG. 14-2

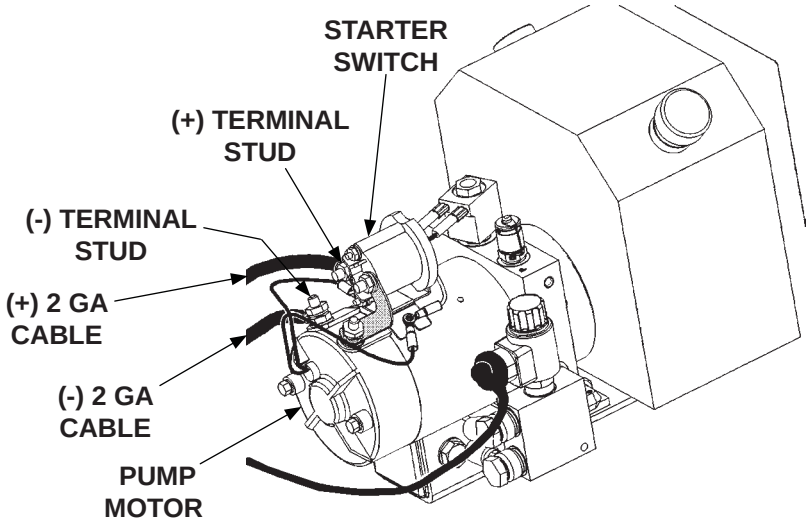
STEP 2 - FIT LIFTGATE TO VEHICLE - Continued

NOTE: Use dielectric grease on all electrical connections.

7. Connect **(+)** power cable to **(+)** terminal on starter switch **(FIGS. 15-1 or 14-2)**. Next, connect **(-)** ground cable to **(-)** terminal on pump motor. Then apply dielectric grease to electrical connections. If equipped, position rubber boots to cover the **(+)** terminal on the motor and starter switch and the ground **(-)** terminal on the motor.



CONNECTING (+) & (-) POWER CABLES TO HALDEX BRAND POWER UNIT FIG. 15-1



CONNECTING (+) & (-) POWER CABLES TO BUCHER BRAND POWER UNIT FIG. 15-2

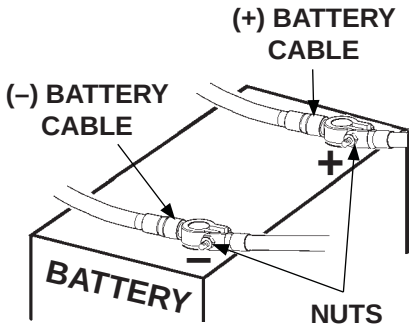
STEP 2 - FIT LIFTGATE TO VEHICLE - Continued

⚠ WARNING

Prevent possible injury and damaged equipment. Ensure the (+) power cable, (-) ground cable, and control switch are connected to power unit before reconnecting vehicle battery cables.

NOTE: Use dielectric grease on all electrical connections.

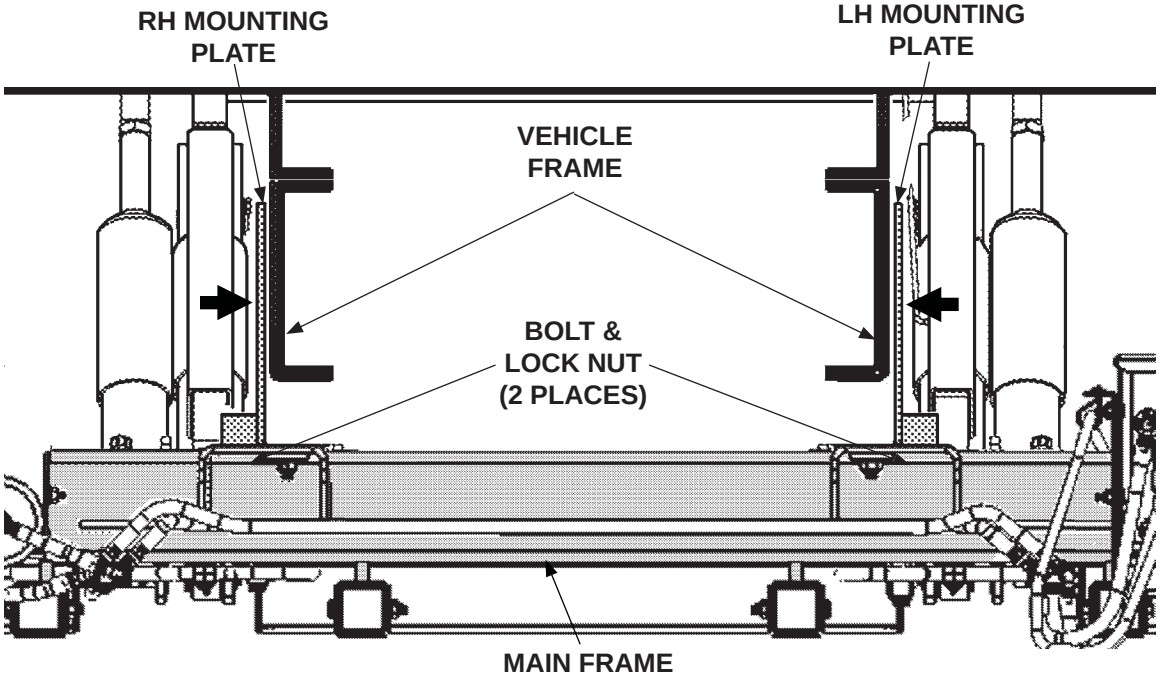
8. Connect **(+)** and **(-)** battery cables to vehicle battery **(FIG. 16-1)**. Tighten the connector nuts securely.



RECONNECTING VEHICLE BATTERY CABLES
FIG. 16-1

NOTE: Mounting plates can be adjusted to fit vehicle frames 29-1/2” to 34-1/2” wide.

9. Position mounting plates for a snug fit against vehicle as follows. Loosen the 2 lock nuts at the base of each mounting plate **(FIG. 16-2)**. Keep liftgate centered on rear sill of vehicle body. Butt both mounting plates against vehicle frame. Tighten lock nuts **(FIG. 16-2)** to **170NM**.



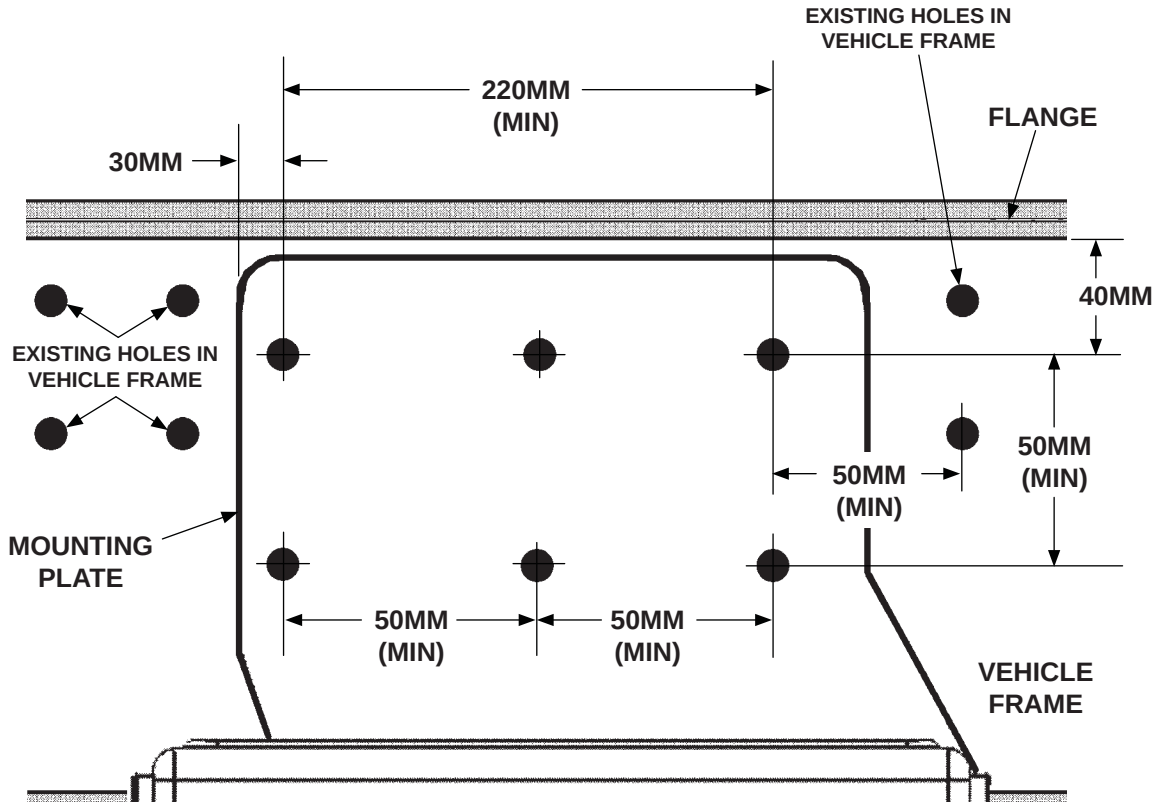
REPOSITIONING MOUNTING PLATES (REAR VIEW OF MAIN FRAME)
FIG. 16-2

STEP 3 - MOUNT LIFTGATE ON VEHICLE FRAME

⚠ WARNING

Never operate the liftgate with loaded platform until mounting plates are completely bolted to the vehicle frame. Personal injury and equipment damage can result.

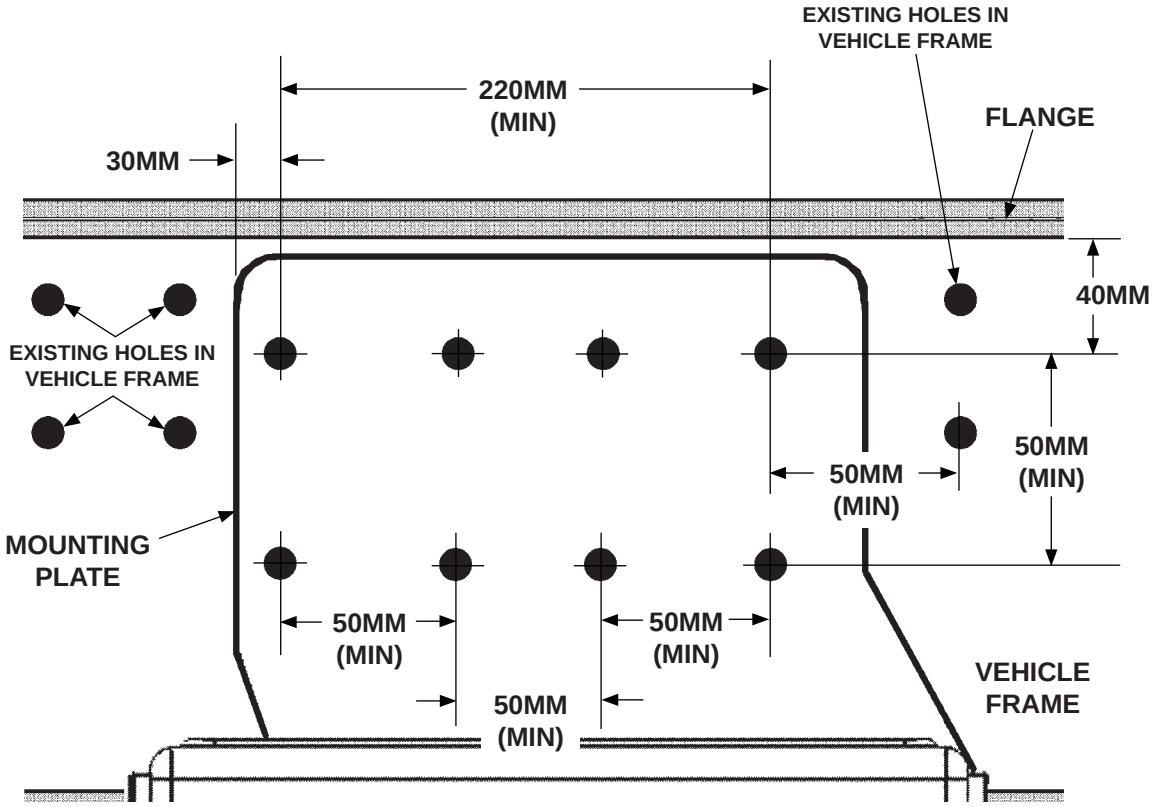
1. Measure, mark, and drill 14.2mm bolt holes in nearside mounting plate as shown in **FIGS. 17-1 and 18-1**. Repeat for offside mounting plate.



6-BOLT PATTERN FOR BOLTING MAX10C & MAX15C TO VEHICLE FRAME
FIG. 17-1

2. Bolt nearside mounting plate to vehicle frame with 14mm grade 8.8 bolts, 14mm flat washers, and 14mm nylon lock nuts. Repeat for offside mounting plate. Torque each 14mm lock nut to **155NM**.

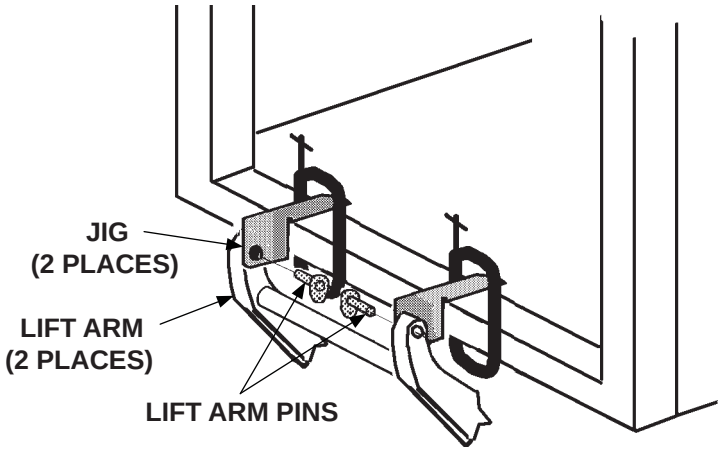
STEP 3 - MOUNT LIFTGATE ON VEHICLE FRAME - Continued



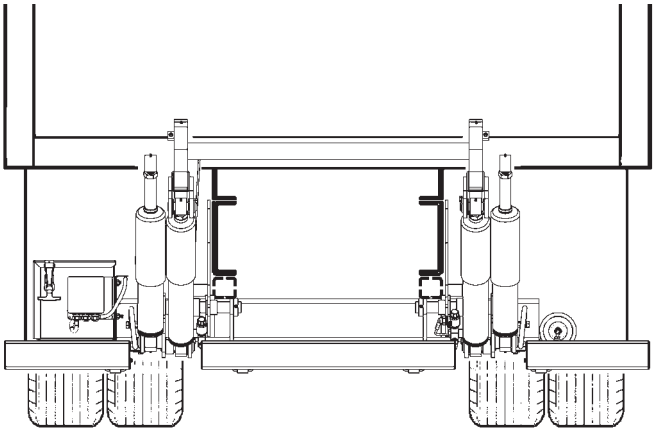
8-BOLT PATTERN FOR BOLTING MAX20C TO VEHICLE FRAME
FIG. 18-1

STEP 4 - REMOVE INSTALLATION JIGS

1. Remove lift arm pins and jigs **(FIGS. 19-1 and 19-2)**.



REMOVING PLATFORM PINS, CLAMPS & JIGS
FIG. 19-1



LIFT ARMS FREED FROM INSTALLATION JIGS
FIG. 19-2

2. Lower forklift or jack and remove from under liftgate.

STEP 5 - ATTACH PLATFORM & ROLLERS

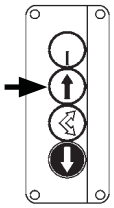
⚠ WARNING

To prevent possible injury, never work in the area directly under the platform. Gain access to lift arm and tilt cylinder rod connection points at heel of platform.

1. Support platform in horizontal position **(FIG. 20-5)**.

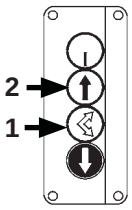
2. Use external control to raise or lower lift arms in position on the platform heel **(FIGS. 20-1, 20-2 and 20-5)**. Next, insert pins to connect lift arms to platform. Then, bolt both pins securely.

3. Use external control to extend or retract tilt cylinder rods to correct position on the platform heel **(FIGS. 20-3, 20-4 and 20-5)**. Next, insert pins to connect tilt cylinder rods to platform **(FIG. 20-5)**. Then, bolt both pins securely.

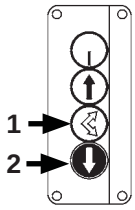


UP BUTTON (RAISE LIFT ARMS)
FIG. 20-1

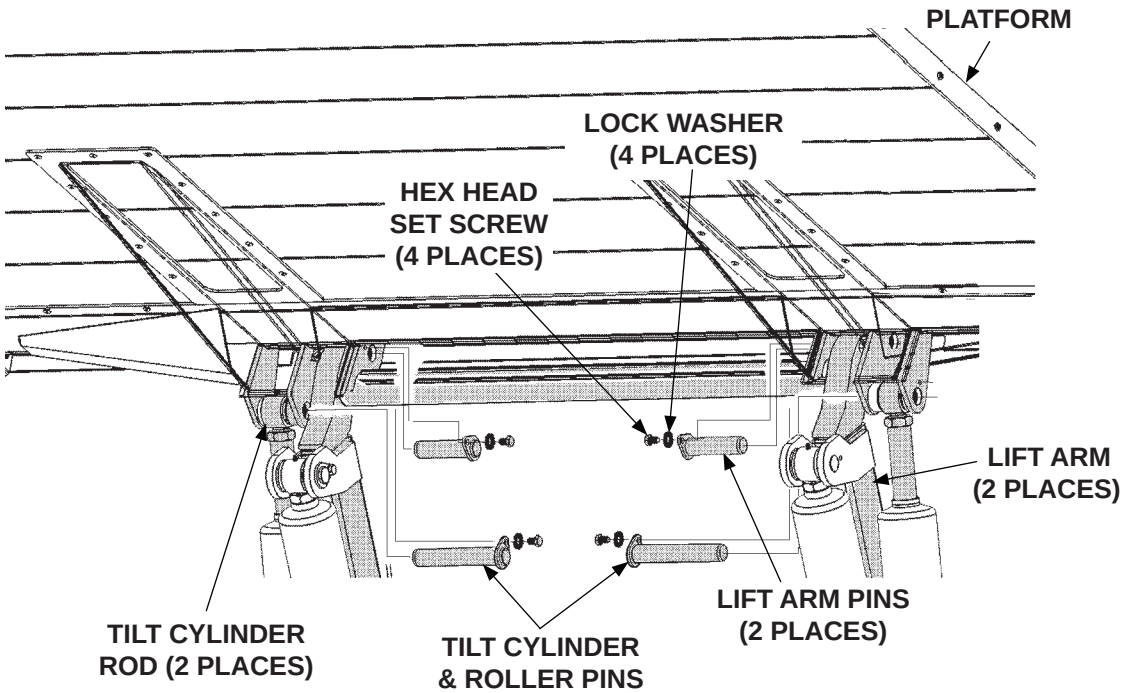
DOWN BUTTON (LOWER LIFT ARMS)
FIG. 20-2



TILT UP (EXTEND TILT CYLINDER ROD)
FIG. 20-3



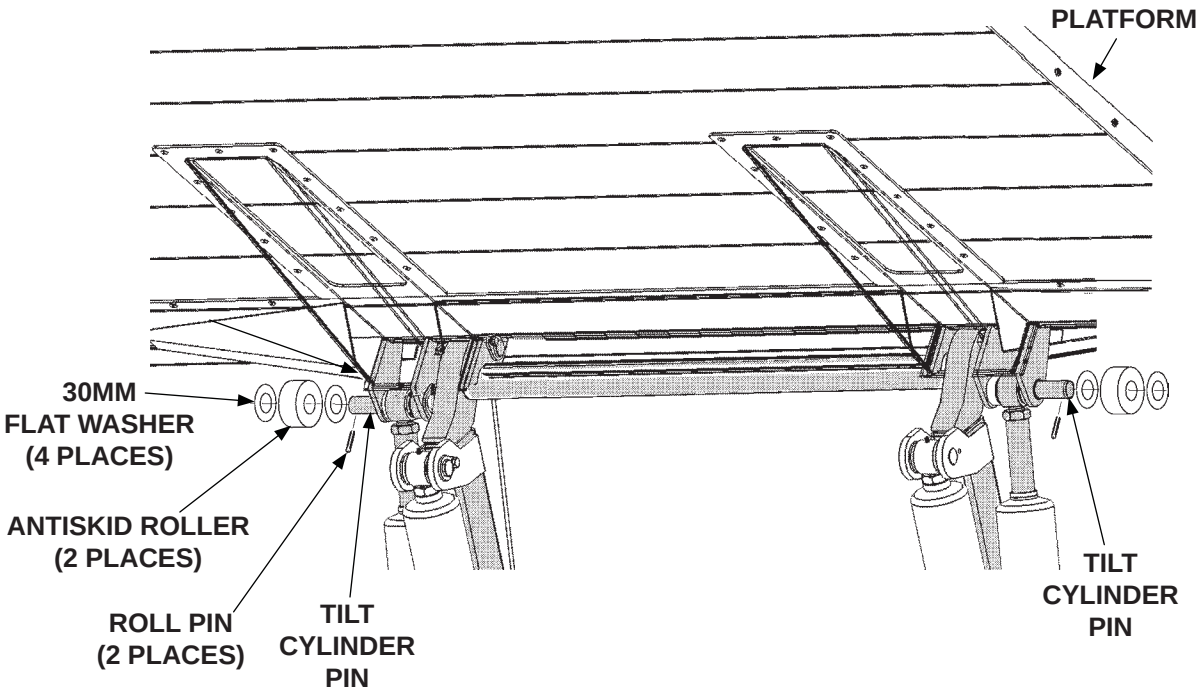
TILT DOWN (RETRACT TILT CYLINDER ROD)
FIG. 20-4


PLATFORM
LOCK WASHER (4 PLACES)
HEX HEAD SET SCREW (4 PLACES)
LIFT ARM (2 PLACES)
LIFT ARM PINS (2 PLACES)
TILT CYLINDER ROD (2 PLACES)
TILT CYLINDER & ROLLER PINS

CONNECTING LIFT ARMS & TILT ARMS TO HEEL OF PLATFORM (ALUMINUM PLATFORM SHOWN)
FIG. 20-5

STEP 5 - ATTACH PLATFORM & ROLLERS - Continued

4. Attach anti-skid rollers, with flat washers and roll pins (Kit items), to tilt cylinder pins **(FIG. 21-1)**.



ATTACHING ANTI-SKID ROLLERS TO CYLINDER PINS
(ALUMINUM PLATFORM SHOWN)
FIG. 21-1

5. Remove platform supports.

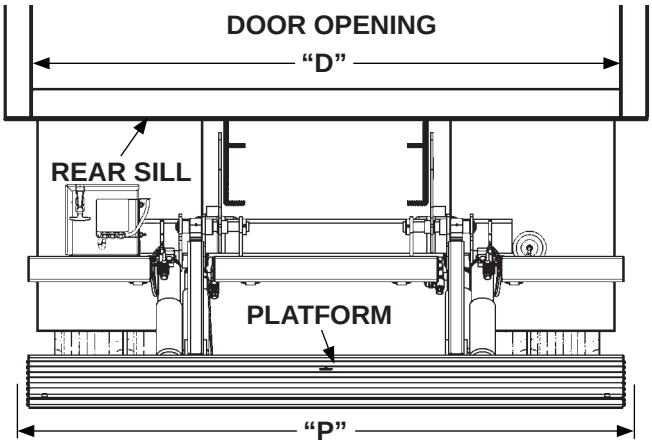
6. Use external control to lower platform **(FIG. 22-1)** to ground level and raise platform **(FIG. 22-2)** to vehicle floor level. Watch for interference between moving parts on the liftgate and the vehicle body and frame.

STEP 6 - ATTACH FLOOR SEAL

1. Lower platform to the ground **(FIG. 22-1)**.

> **NOTE:** If door seals are required for top and sides of the door opening, measure width of door opening.

2. Measure width "**P**" of the platform **(FIG. 22-1)** or width "**D**" of door opening.



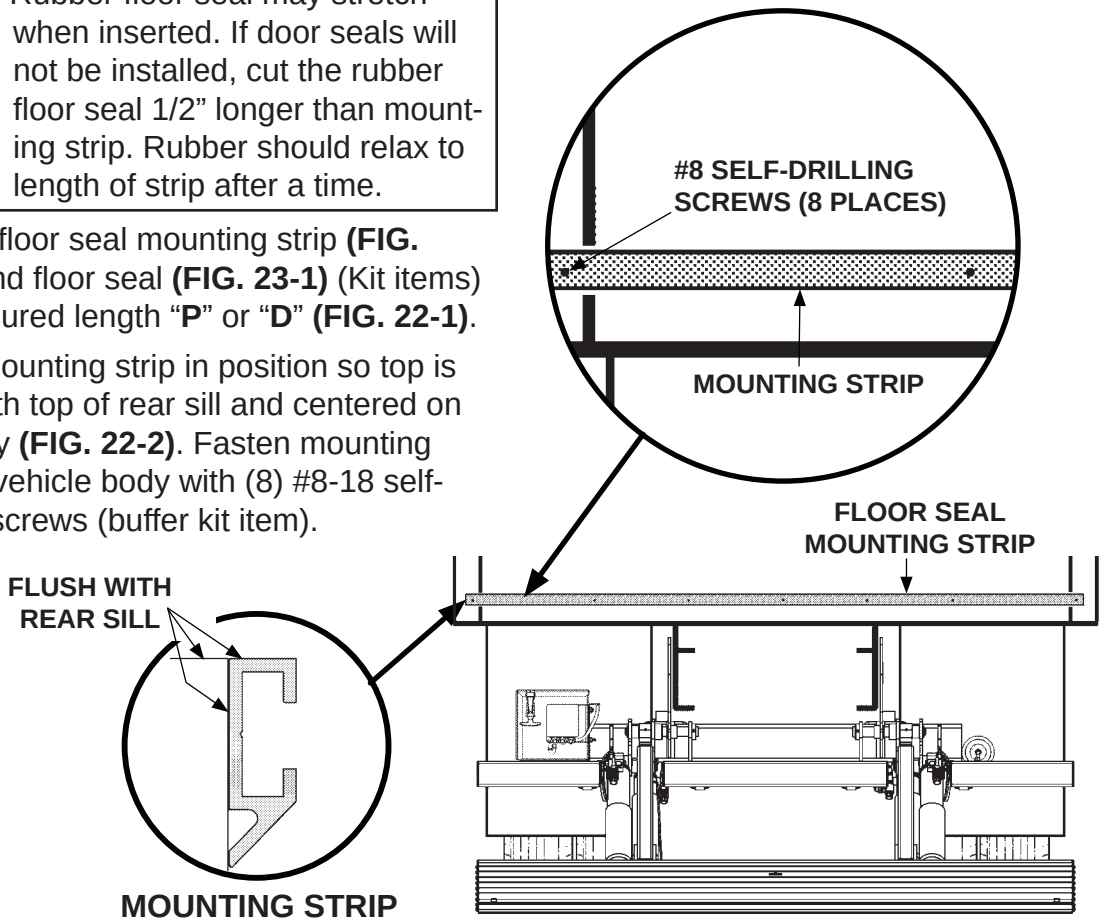
MEASURING WIDTH OF PLATFORM OR DOOR WIDTH ON THE BODY (PLATFORM ON THE GROUND) FIG. 22-1

> **NOTE:** If door seals are to be installed at top and sides of door opening, cut floor seal to width **"D"** of door opening.

> **NOTE:** Rubber floor seal may stretch when inserted. If door seals will not be installed, cut the rubber floor seal 1/2" longer than mounting strip. Rubber should relax to length of strip after a time.

3. Cut the floor seal mounting strip **(FIG. 22-2)** and floor seal **(FIG. 23-1)** (Kit items) to measured length "**P**" or "**D**" **(FIG. 22-1)**.

4. Place mounting strip in position so top is flush with top of rear sill and centered on the body **(FIG. 22-2)**. Fasten mounting strip to vehicle body with (8) #8-18 self-drilling screws (buffer kit item).



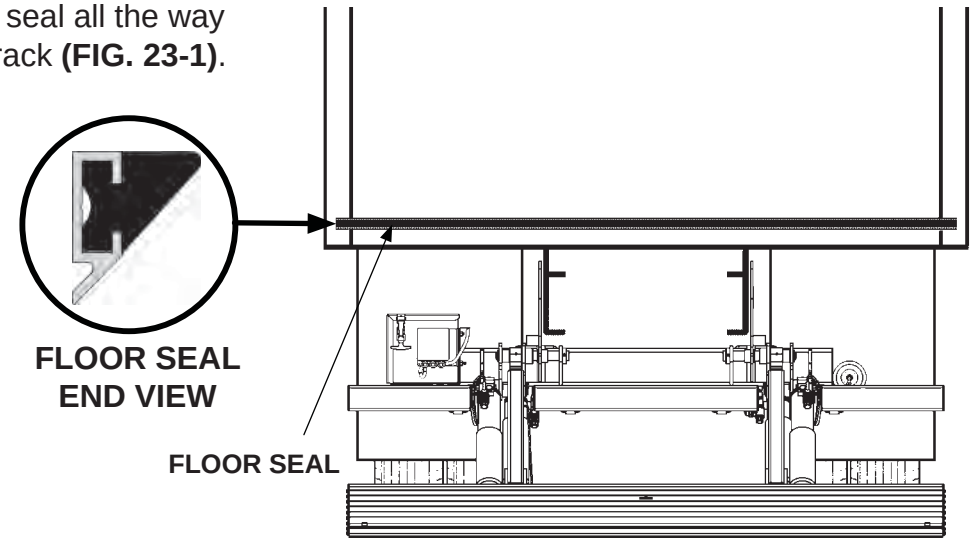
MOUNTING STRIP END VIEW

ATTACHING MOUNTING STRIP (STRIP SHOWN CUT TO PLATFORM WIDTH) FIG. 22-2

STEP 6 - ATTACH FLOOR SEAL - Continued

NOTE: Seal can be captured by staking each end of the mounting strip.

5. Slide rubber floor seal all the way in the mounting track **(FIG. 23-1)**.



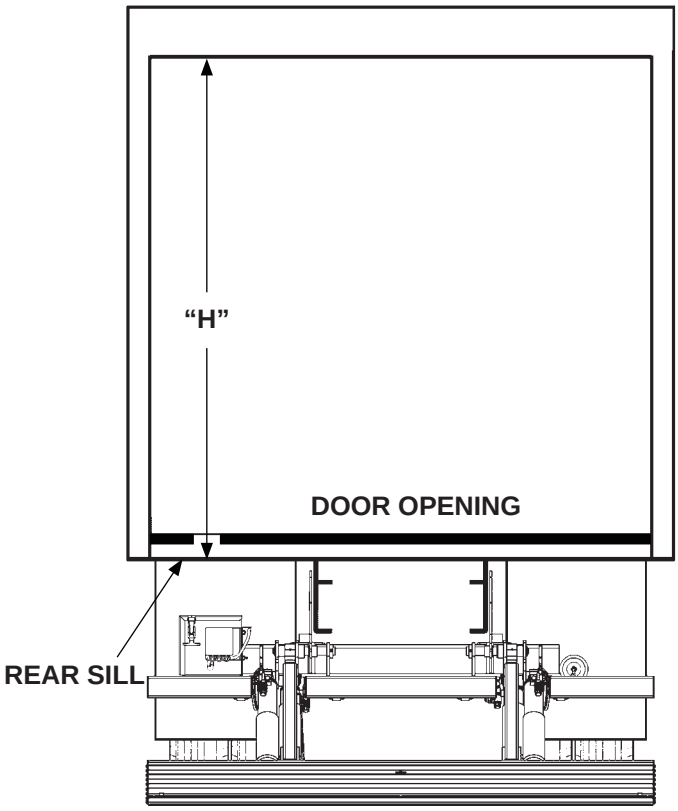
FLOOR SEAL INSERTED
(SEAL IS SHOWN CUT TO PLATFORM WIDTH)
FIG. 23-1

STEP 7 - ATTACH DOOR SEALS & PLATFORM BUFFERS

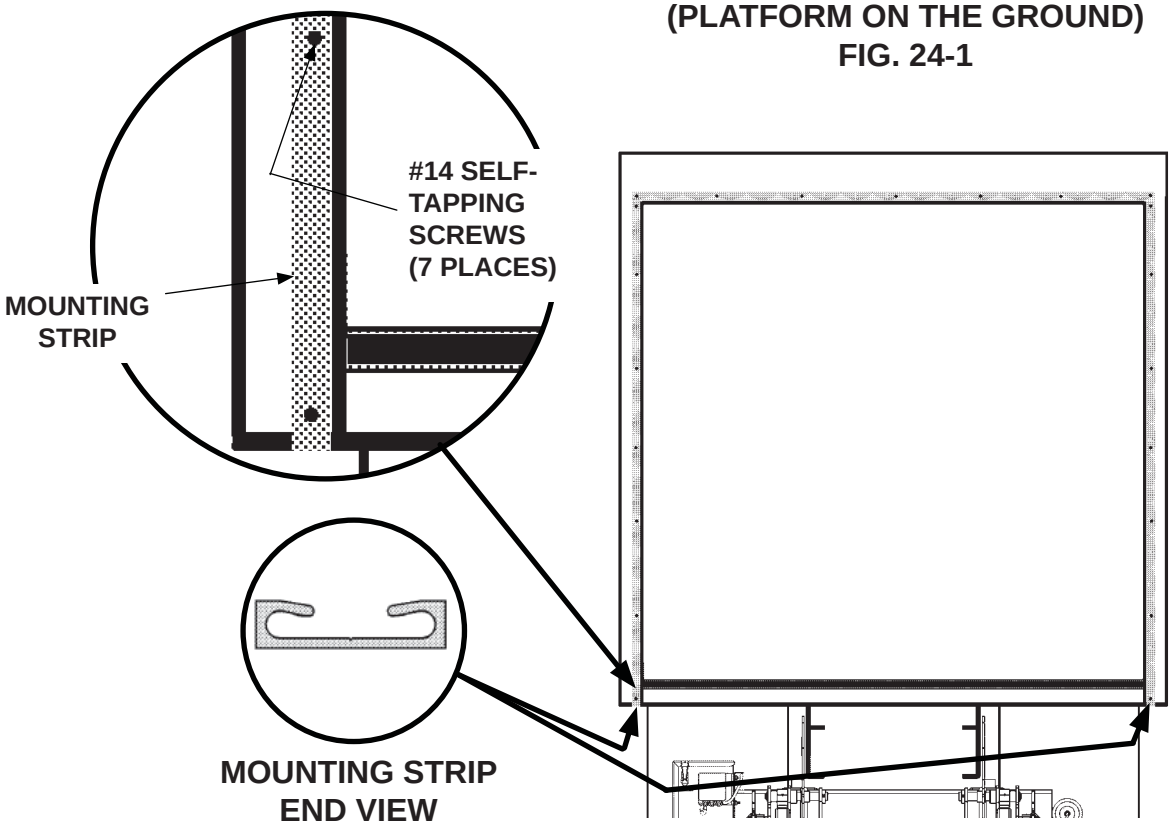
1. Measure height "**H**" from bottom of rear sill to top of door opening on vehicle body **(FIG. 24-1)**.

2. Cut 2 door seal mounting strips **(FIG. 24-2)** and door seals **(FIG. 25-2)** (Kit items) to measured length "**H**" **(FIG. 24-1)**.

3. Place mounting strip (Kit item) in position on LH side & RH side of door opening **(FIG. 24-2)**. Fasten each mounting strip to vehicle body with (7) #14 self-tapping screws (Kit item).



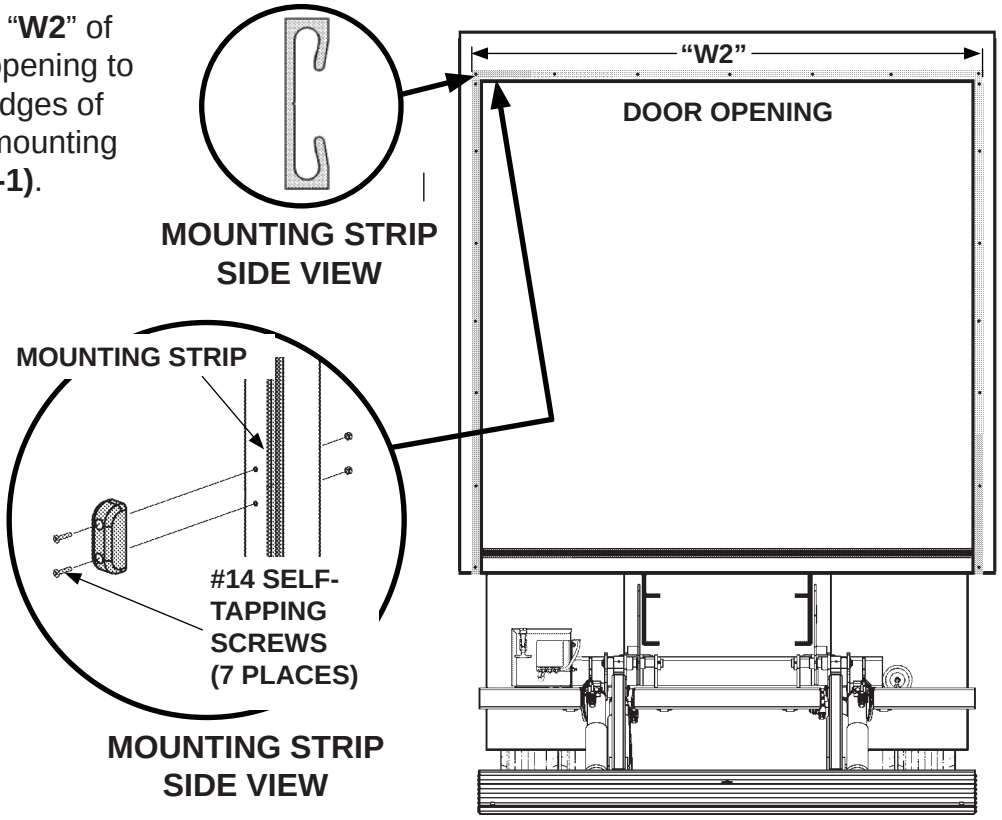
MEASURING DOOR HEIGHT (PLATFORM ON THE GROUND) FIG. 24-1



ATTACHING MOUNTING STRIPS FIG. 24-2

STEP 7 - ATTACH DOOR SEALS & PLATFORM BUFFERS -Continued

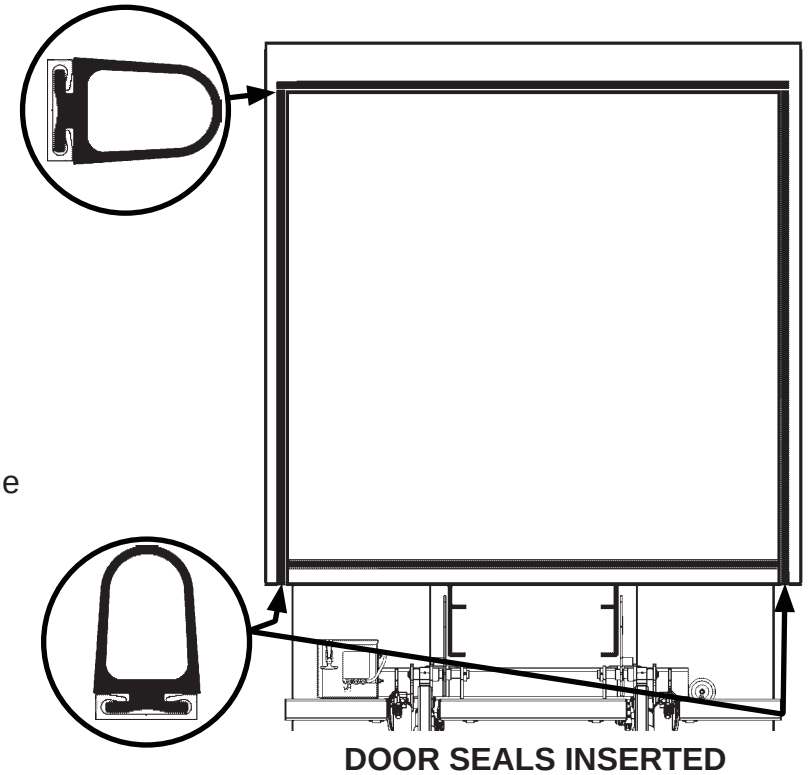
4. Measure width "**W2**" of the rear door opening to the outboard edges of the door seal mounting strips **(FIG. 25-1)**.



ATTACHING TOP MOUNTING STRIP
FIG. 25-1

5. Place mounting strip (Kit item) in position at top of door opening **(FIG. 25-1)**. Fasten mounting strip to vehicle body with (7) #14 self-tapping screws (Kit item).

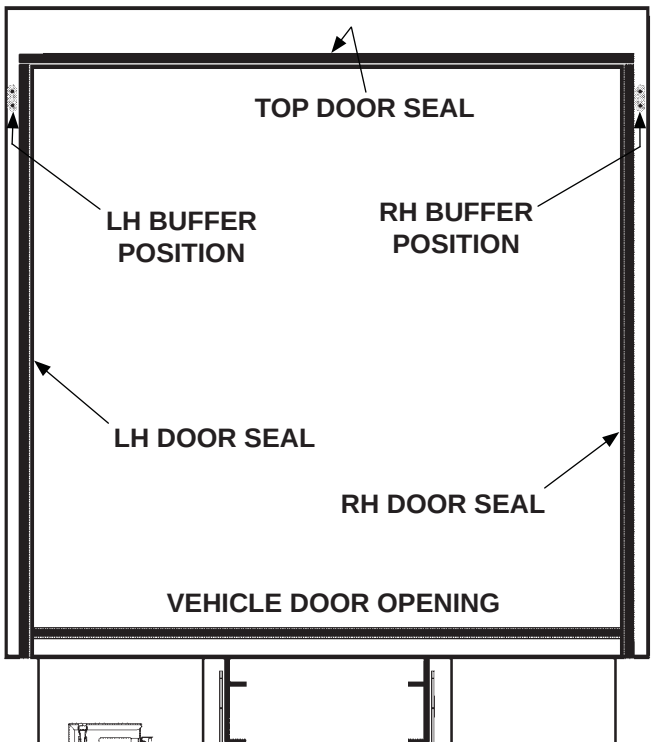
6. Slide rubber door seals all the way through the 3 mounting tracks **(FIG. 25-2)**.



DOOR SEALS INSERTED
FIG. 25-2

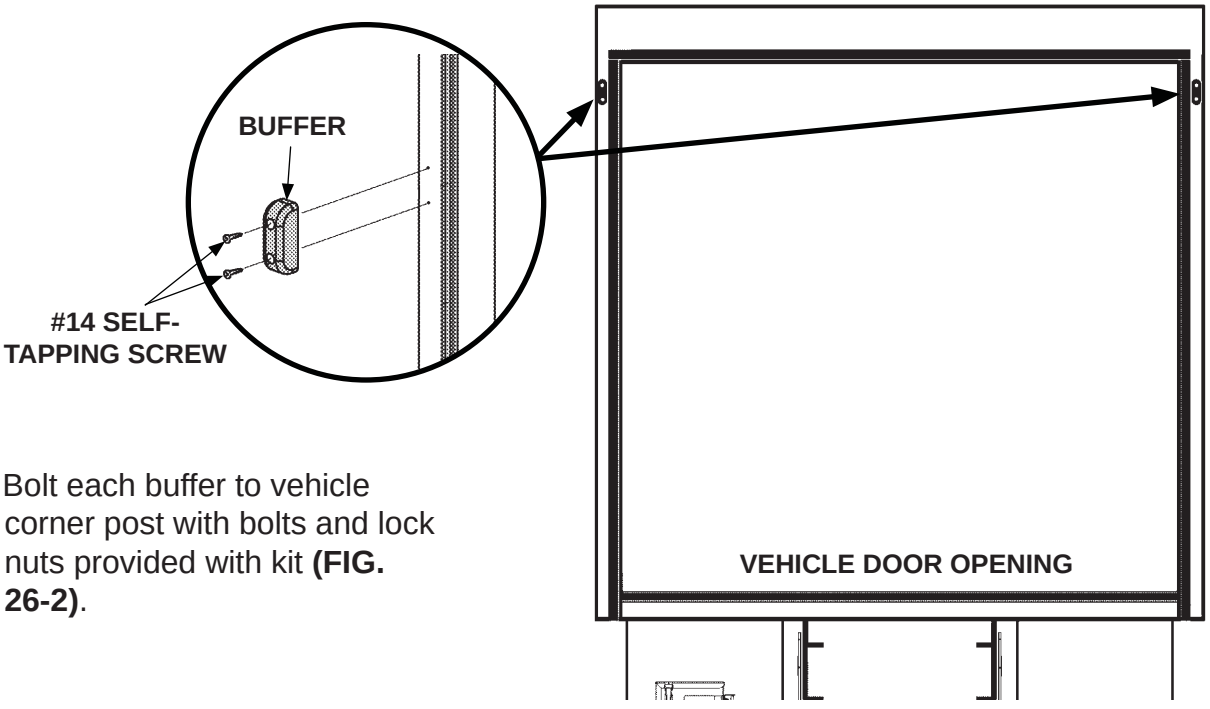
STEP 7 - ATTACH DOOR SEALS & PLATFORM BUFFERS -Continued

7. Position rubber buffers (Kit item) on vehicle body corner posts at outboard side of door seals as shown in **FIG. 26-1**. Ensure each buffer is below the seal at the top of the door and makes contact with platform below the tip.



POSITIONING BUFFERS ON VEHICLE BODY
FIG. 26-1

8. Use each rubber buffer (Kit item) as a template for marking and drilling 2 pilot holes (#14 screws) in each vehicle body corner post **(FIG. 26-1)**.

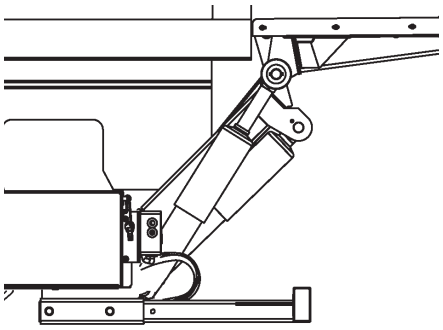


9. Bolt each buffer to vehicle corner post with bolts and lock nuts provided with kit **(FIG. 26-2)**.

BOLTING BUFFERS TO VEHICLE BODY
FIG. 26-2

STEP 8 - ATTACH LIFT STOPS

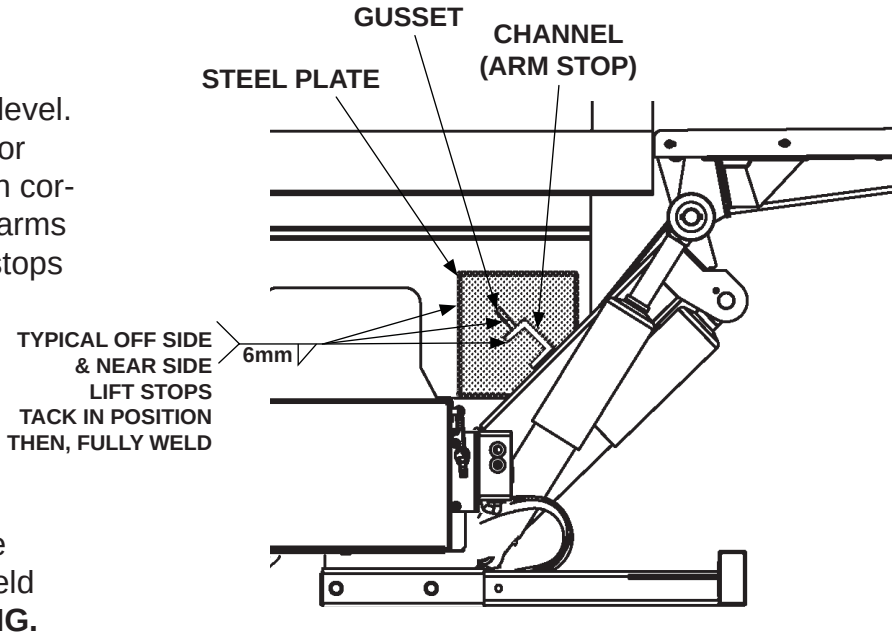
1. Raise open platform to vehicle floor level **(FIG. 27-1)**.



PLATFORM RAISED TO FLOOR LEVEL
FIG. 27-1

2. Find area, free of obstructions, on vehicle frame by nearside lift arm. Position lift stop channel, with gusset and plate (Kit items), so channel is in contact with nearside lift arm and as close as possible to underside of vehicle body **(FIG. 27-2)**. Tack weld in position. Repeat this step for offside lift arm.

3. Lower platform to ground level. Then, raise platform to floor level to verify platform is in correct position when the lift arms come in contact with the stops **(FIG. 27-2)**.

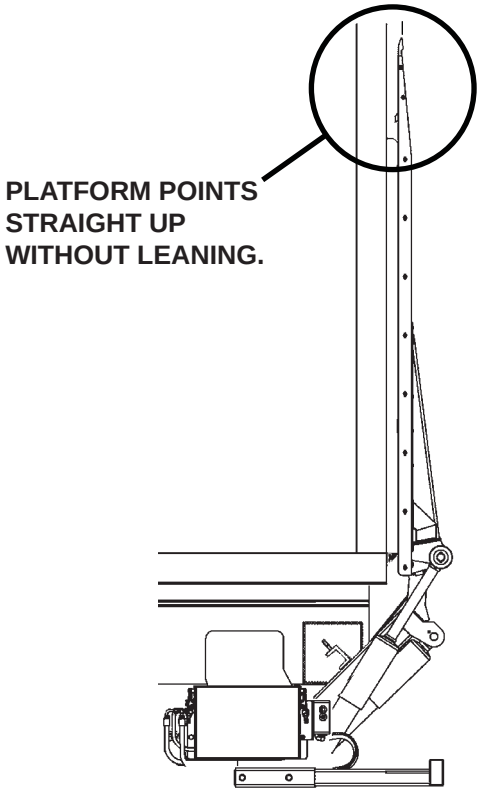


4. When stop and gusset are in correct position, fully weld plate, stop, and gusset **(FIG. 27-2)**. Repeat this step for off side lift arm.

LIFT STOP & GUSSET WELDED
TO VEHICLE FRAME
FIG. 27-2

STEP 9 - ADJUST PLATFORM TILT STOPS

1. Stow platform **(FIG. 28-1)**.

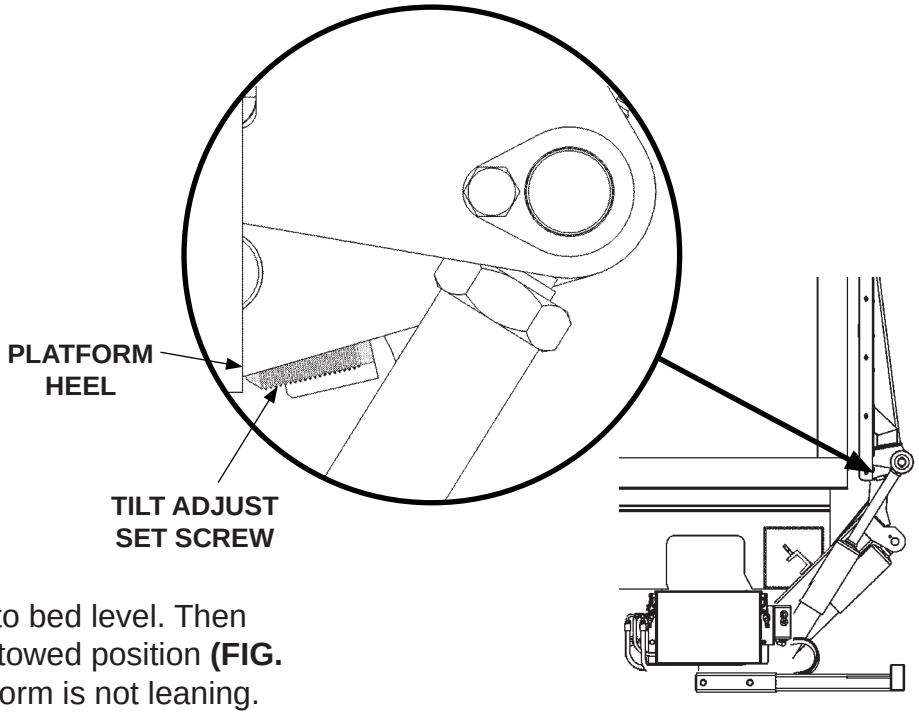


PLATFORM STOWED
FIG. 28-1

2. Ensure platform is pointed straight up and not leaning towards the vehicle body **(FIG. 28-1)**.

> **NOTE:** There is a tilt stop adjustment screw where each lift arm connects to platform.

3. If platform leans toward vehicle body, turn tilt stop screws clockwise at nearside and offside of the platform **(FIG. 28-2)**. Turn screws evenly until platform points straight up without leaning.



PLATFORM WITH NEARSIDE TILT STOP SHOWN
FIG. 28-2

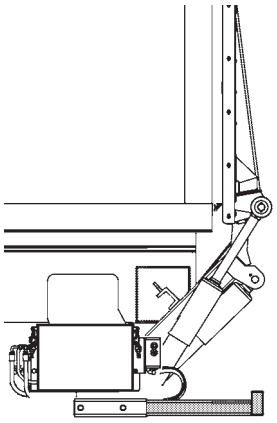
4. Tilt platform down to bed level. Then tilt platform up to stowed position **(FIG. 28-1)**. Ensure platform is not leaning. If necessary repeat adjustment instruction 3.

STEP 10 - ADJUST UNDERRUN BUMPER

⚠ WARNING

To prevent possible injury, stow platform and disconnect vehicle battery from power pack before working below platform.

1. Stow the platform **(FIG. 29-1)**.

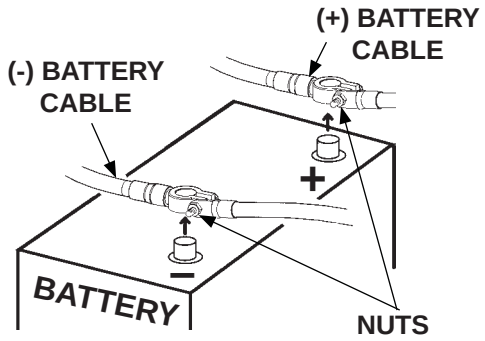


PLATFORM STOWED
FIG. 29-1

⚠ WARNING

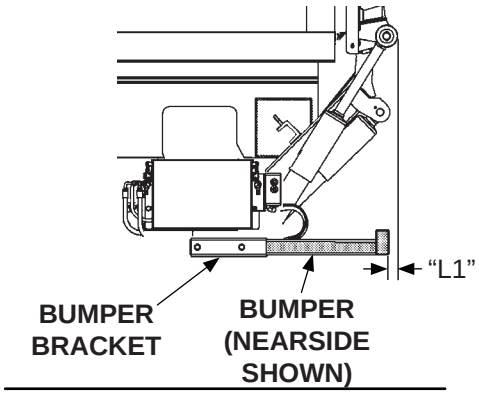
To prevent possible injury, disconnect power from Tail Lift while working under vehicle body.

2. Disconnect **(+)** and **(-)** battery cables from battery **(FIG. 29-2)**.



DISCONNECTING BATTERY CABLES
FIG. 29-2

3. Measure position “L1” of the nearside, centre, and offside parts of underrun bumper **(FIG. 29-3)**.

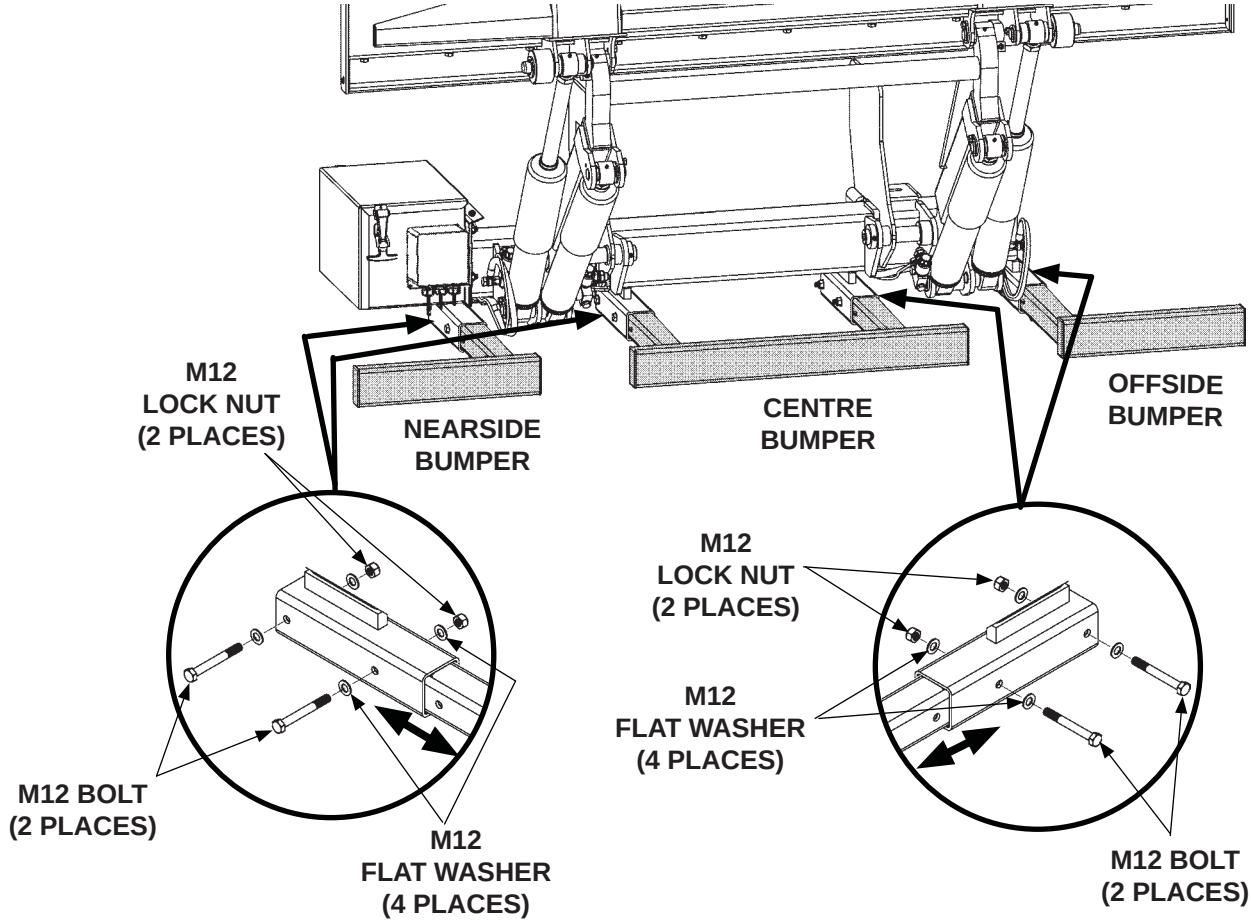


MEASURING UNDERRUN BUMPER POSITION & GROUND CLEARANCE
FIG. 29-3

STEP 10 - ADJUST UNDERRUN BUMPER - Continued

NOTE: The centre part of the underrun bumper must be bolted to the main frame with 4 bolts. For the nearside and offside parts of the bumper, each part must be bolted to the main frame with 2 bolts. Bolt pattern allows bumper position “L1” to be shortened approximately 2-3/8” from shipping position.

4. If adjustment is necessary, unbolt the nearside, centre, and offside parts of underrun bumper. Change bumper position “L1” **(FIG. 30-1)** to the allowable dimensions shown in the **VEHICLE REQUIREMENTS** section.



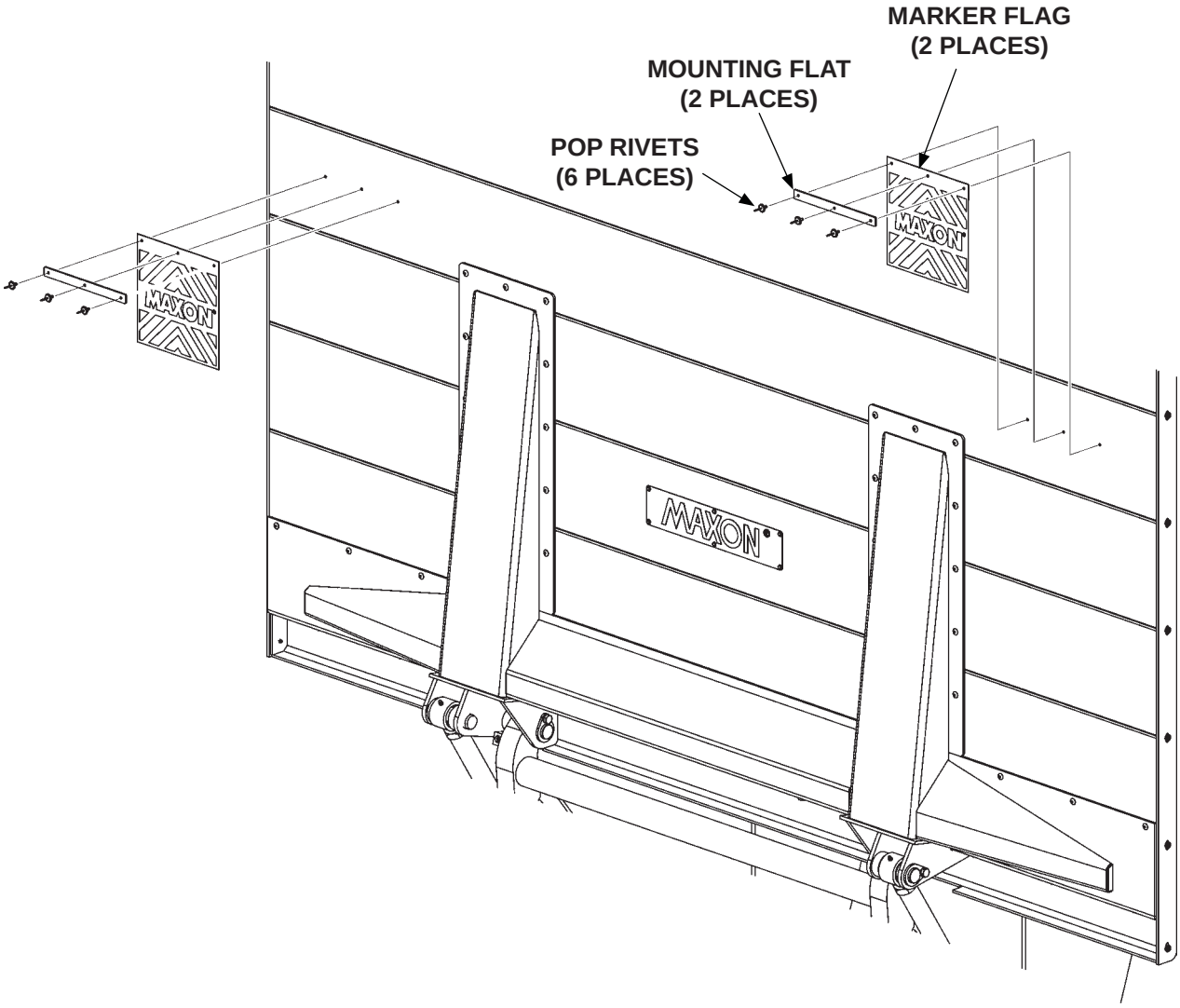
UNBOLTING UNDERRUN BUMPER TO CHANGE POSITION FIG. 30-1

5. When each of the 3 bumpers are in correct position, bolt each bumper to bracket with specified number of bolts **(FIG. 30-1).** Torque each of the 12 lock nuts to **116NM**.

6. Reconnect **(+)** and **(-)** battery cables to battery. Tighten the connector nuts securely.

STEP 11 - ATTACH MARKER FLAGS

1. Stow platform **(FIG. 31-1)**.



ATTACHING MARKER FLAGS TO PLATFORM (ALUMINUM SHOWN)
FIG. 31-1

2. Use mounting flats to mark and drill 6 holes to fasten flags and flats to platform **(FIG. 31-1)**.

> **NOTE:** Aluminum pop rivets and self-tapping screws are provided with marker flag kit. Use the 6 aluminum rivets to attach flags to aluminum platform. To attach marker flags to steel platform, use the 6 self-tapping screws.

3. Attach marker flags (Kit items) as shown in **(FIG. 31-1)**.

STEP 12 - CHECK HYDRAULIC FLUID

HALDEX PUMP ONLY

CAUTION

Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination.

1. Tilt platform down to bed level. Then, lower platform to the ground and tilt the tip down.

2. Unlatch and open pump cover **(FIG. 32-1)**.

3. Check the hydraulic fluid level in reservoir as follows. With platform on ground, level should be as shown in **FIG. 32-2**.

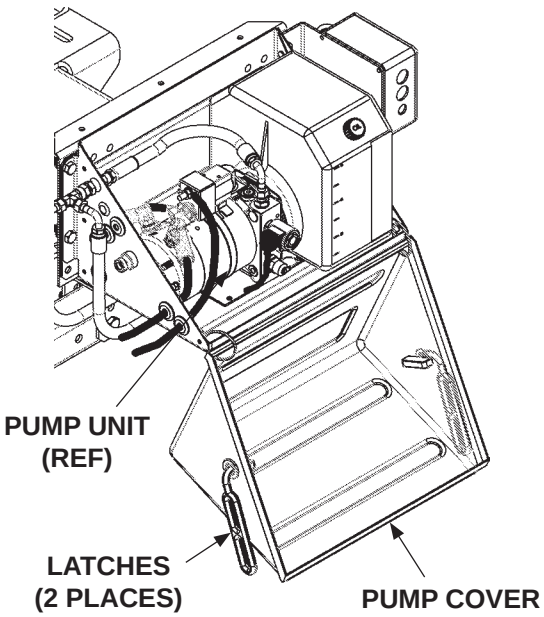
NOTE: If the hydraulic fluid in the reservoir is contaminated, do the **CHANGING HYDRAULIC FLUID** procedure in this section.

4. If needed, add fluid to the reservoir as follows. Remove filler/breather cap **(FIG. 32-2)**. Fill the reservoir with fresh **ISO VG22 hydraulic fluid** up to "**6L**" mark **(FIG. 32-2)**. Reinstall cap **(FIG. 32-2)**.

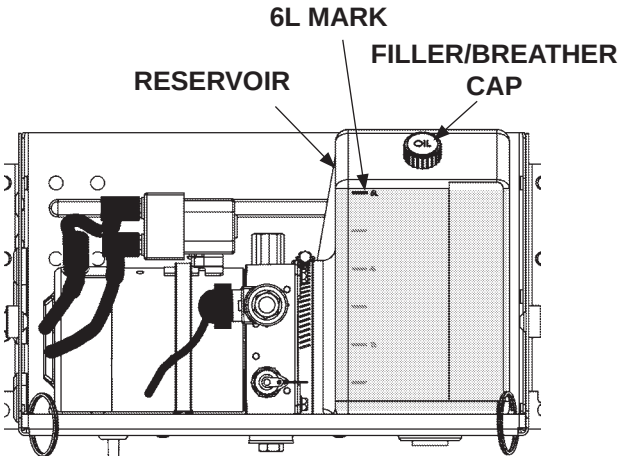
CAUTION

Pump cover must be correctly secured to prevent it from becoming a hazard. Ensure pump cover is latched to pump box.

5. Close and latch the pump cover as shown in **FIG. 32-1**.



UNLATCH/LATCH PUMP COVER
FIG. 32-1



POWER UNIT FLUID LEVEL
FIG. 32-2

STEP 12 - CHECK HYDRAULIC FLUID - Continued

BUCHER PUMP ONLY

CAUTION

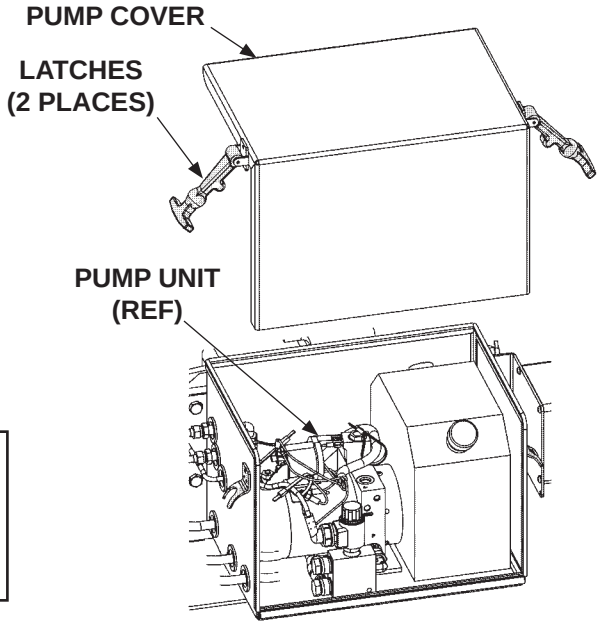
Keep dirt, water and other contaminants from entering the hydraulic system. Before opening the hydraulic fluid reservoir filler cap, drain plug and hydraulic lines, clean up contaminants that can get in the openings. Also, protect the openings from accidental contamination.

1. Tilt platform down to bed level. Then, lower platform to the ground and tilt the tip down.

2. Unlatch and open pump cover **(FIG. 33-1)**.

3. Check the hydraulic fluid level in reservoir as follows. With platform on ground, level should be as shown in **FIG. 33-2**.

NOTE: If the hydraulic fluid in the reservoir is contaminated, do the **CHANGING HYDRAULIC FLUID** procedure in this section.



UNLATCH/LATCH PUMP COVER
FIG. 33-1

CAUTION

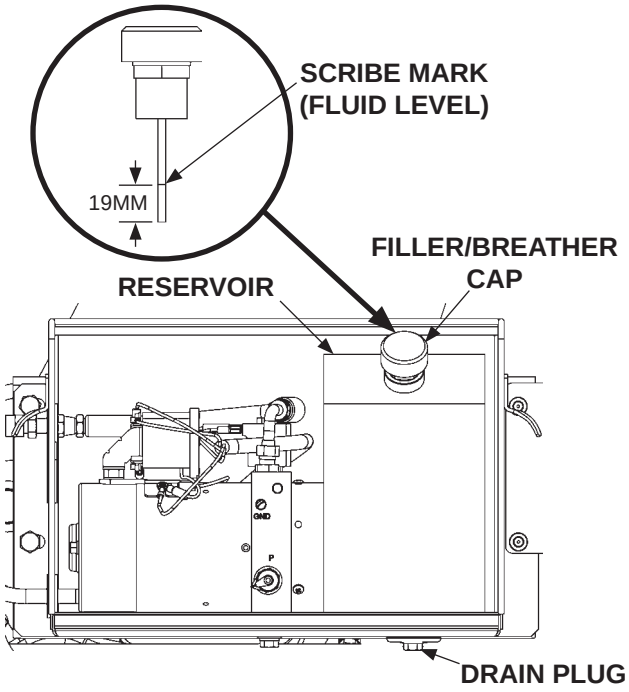
Do not fill reservoir to the FULL mark on the dipstick. Hydraulic fluid can overflow from the reservoir.

4. If needed, add **ISO 22** hydraulic fluid to the reservoir as follows. Remove filler cap **(FIG. 33-2)**. Fill the reservoir with hydraulic fluid to scribe mark 19MM above bottom of dipstick **(FIG. 33-2)**. Reinstall filler cap **(FIG. 33-2)**.

CAUTION

Pump cover must be correctly secured to prevent it from becoming a hazard. Ensure pump cover is latched to pump box.

5. Close and latch the pump cover **(FIG. 33-1)**.

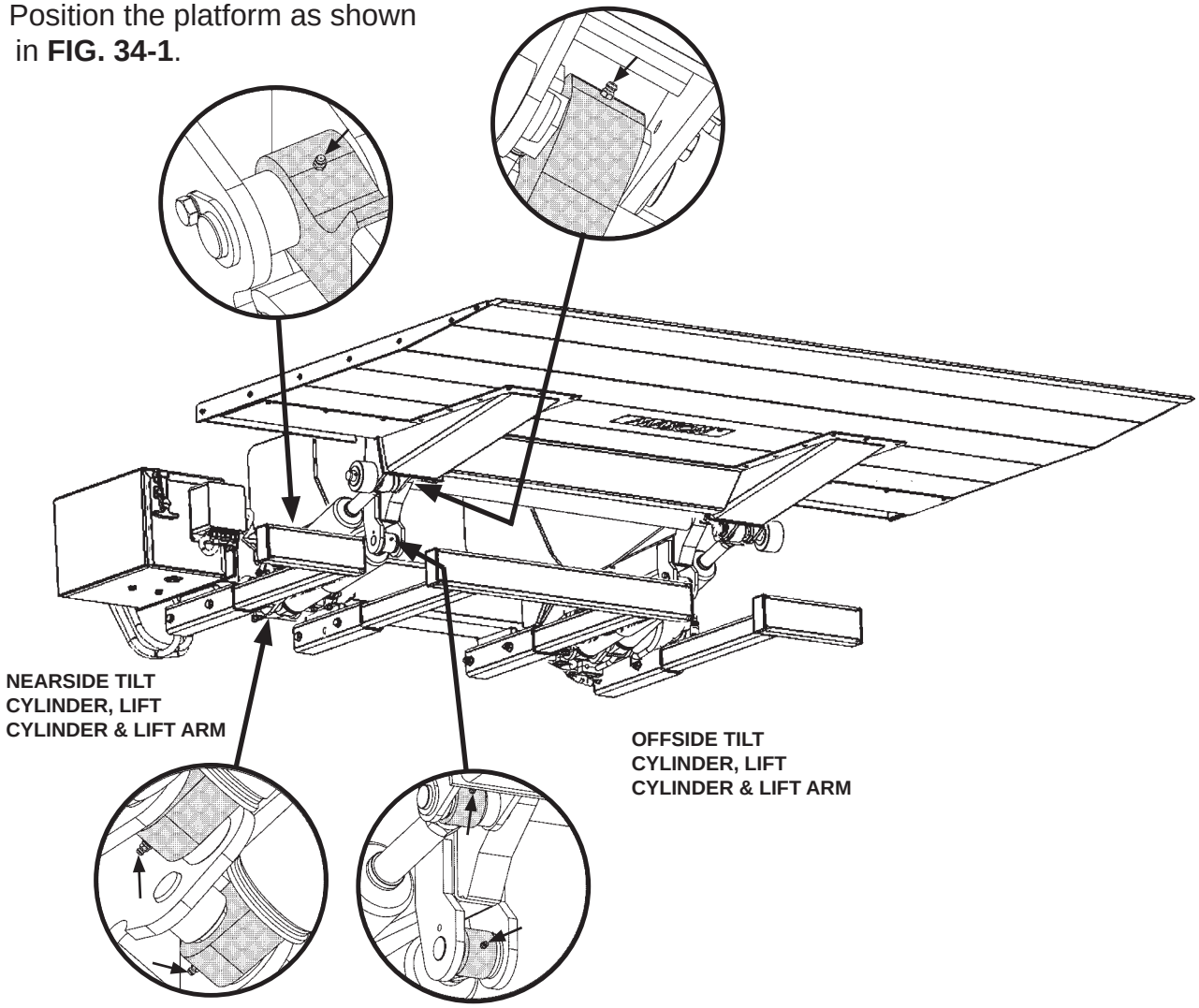


POWER UNIT FLUID LEVEL
FIG. 33-2

STEP 13 - LUBRICATE BEARINGS AT GREASE FITTINGS

NOTE: Lube fittings are shown for the nearside tilt cylinder, nearside lift cylinder, and nearside arm of the lift frame. There are also lube fittings at the same places on the offside tilt cylinder, offside lift cylinder, and offside arm of the lift frame.

1. Position the platform as shown in **FIG. 34-1**.



LUBRICATION DIAGRAM
FIG. 34-1

2. Pump multi-purpose lithium grease in each lube fitting on the cylinders and arms until grease starts oozing from ends of the bearings. Refer to lubrication diagram in **FIG. 34-1**. Wipe off excess grease with a clean lint-free cloth.

STEP 14 - ATTACH EXTERNAL BRACKET & CONTROLS

CAUTION

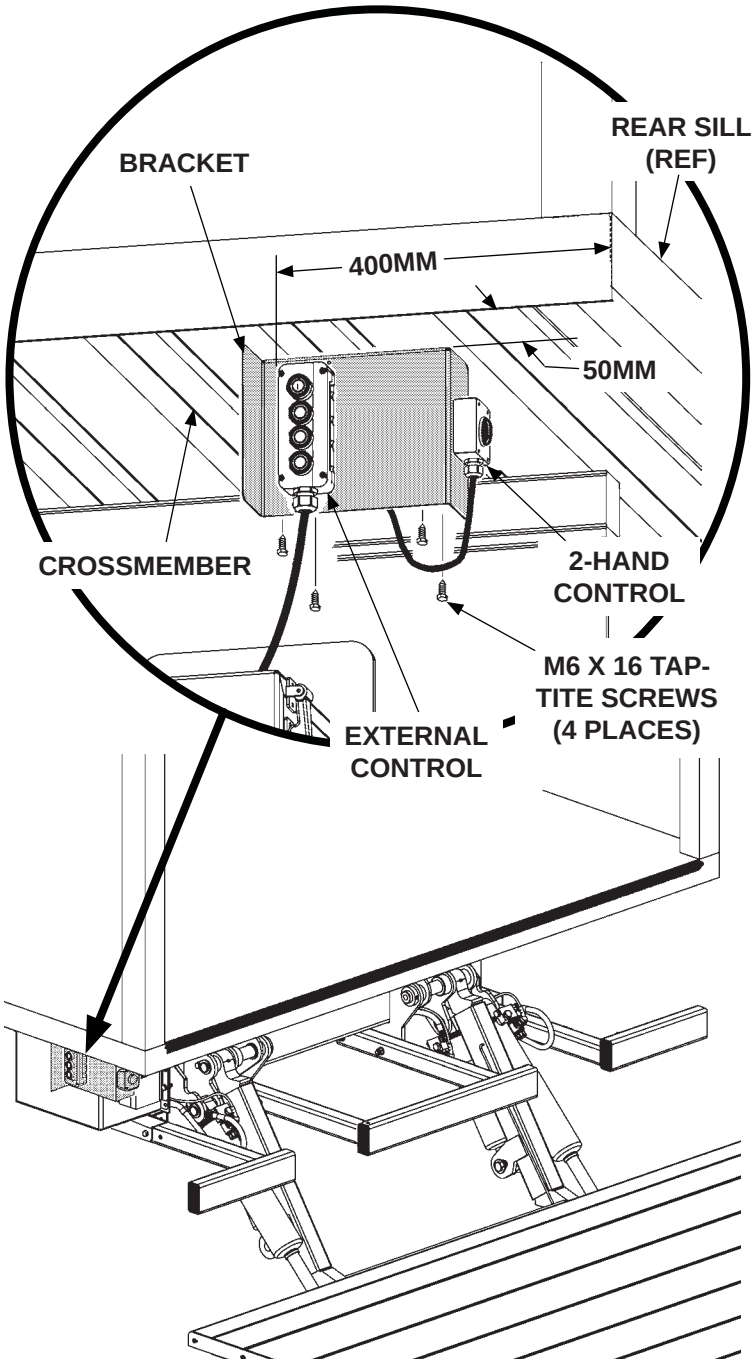
Prevent damage to control box. Make sure installed control box does not protrude from the vehicle body.

1. Position external control bracket on crossmembers at nearside of vehicle body as shown **FIG. 35-1**.

2. Bolt external control bracket in position with 4 self-tapping **(FIG. 35-1)**.

NOTE: Secure excess lengths of control cables behind power pack away from moving parts on liftgate and vehicle.

3. Attach external control to bracket as follows **(FIG. 35-1)**. Remove control face from rear housing of external control by loosening 4 screws. Next, bolt external control rear housing to bracket with M4 screws, washers, and lock nuts provided. Then, reattach control face to rear housing with 4 screws. Repeat for the 2-hand control.

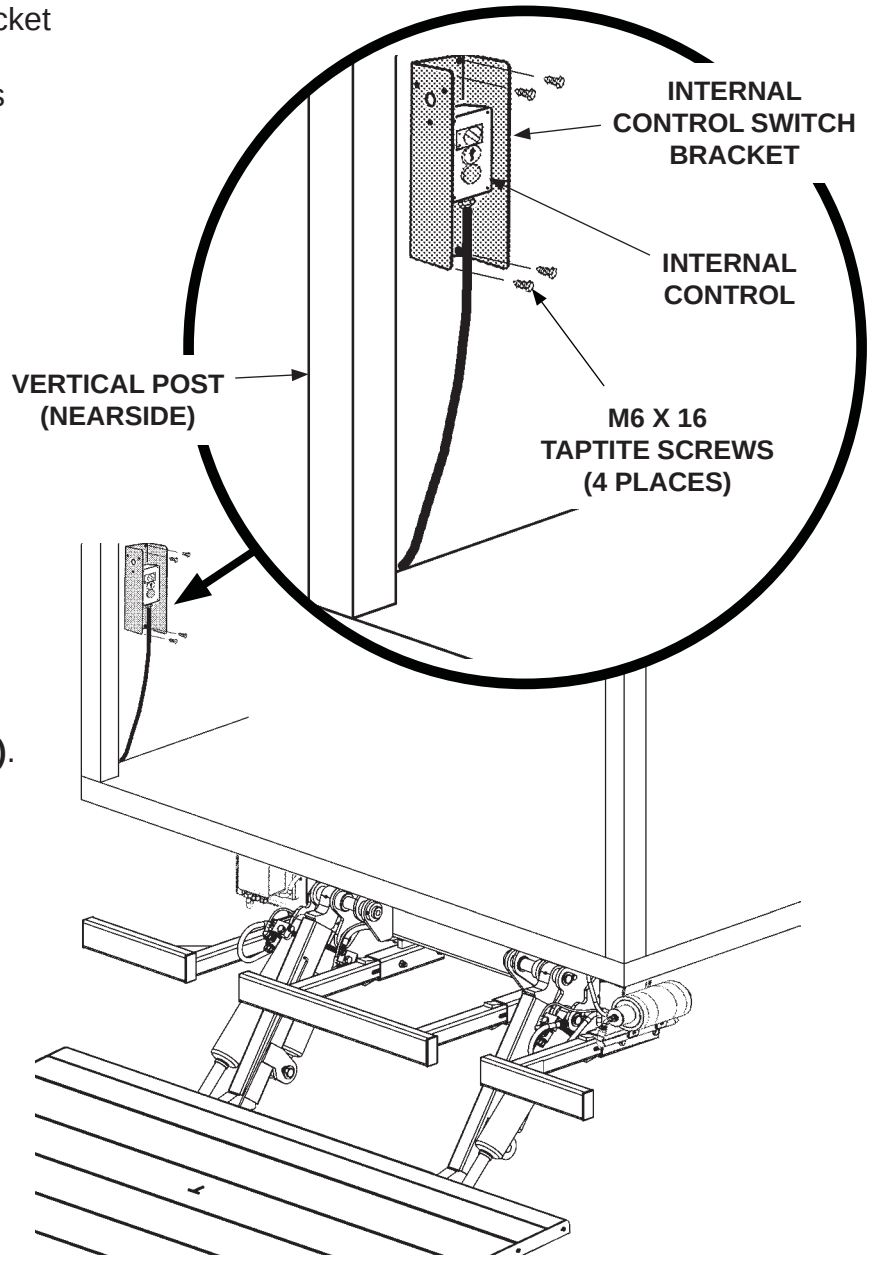


POSITIONING & BOLTING EXTERNAL CONTROL BRACKET UNDER VEHICLE BODY
FIG. 35-1

STEP 15 - ATTACH INTERNAL BRACKET & CONTROL

1. Position internal control bracket (Kit item) by nearside rear vehicle body vertical post as shown in **FIG. 36-1**.

2. Use bracket to mark and drill 4 holes for M6 tapping screws. Then, bolt internal control bracket to vehicle body with 4 self-tapping screws (Kit item) **(FIG. 36-1)**.



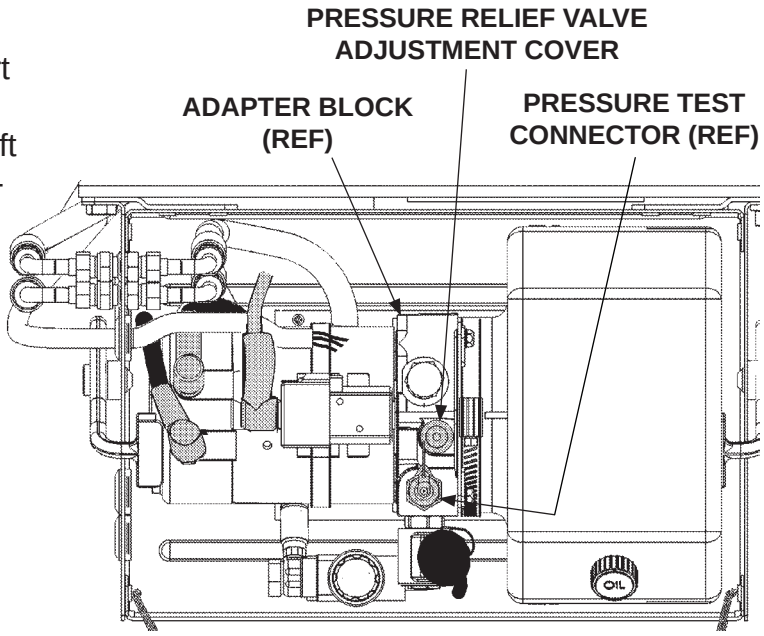
BOLTING INTERNAL SWITCH & BRACKET TO VEHICLE BODY
FIG. 36-1

3. Attach internal control to bracket as follows **(FIG. 36-1)**. Remove control face from rear housing of internal control by loosening 4 screws. Next, bolt internal control rear housing to bracket with M4 screws, washers, and lock nuts provided. Then, reattach control face to rear housing with 4 screws.

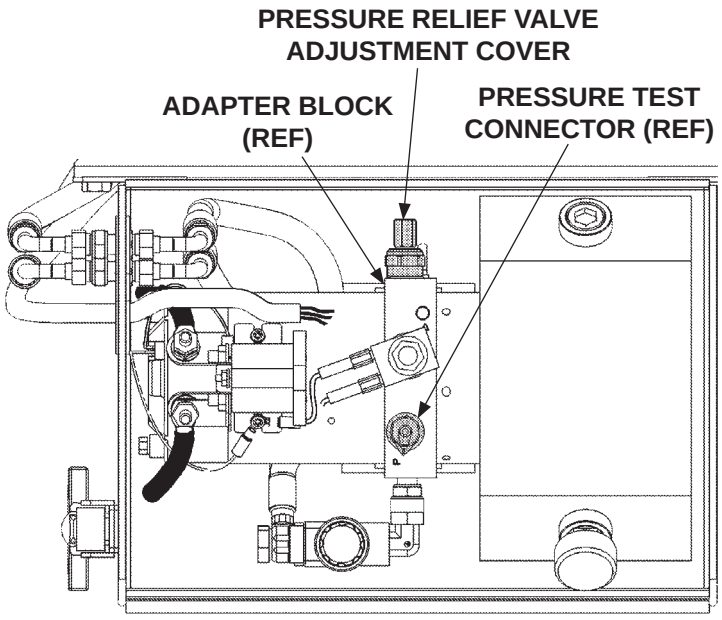
STEP 16 - LOAD TEST & CERTIFY TAIL LIFT

Note: To finish installation, the installer must do the Tail Lift Load Testing procedure and complete the Tail Lift Test Certificate (P/N 5-90028)

The pressure relief valve is located on the adapter block **(FIGS. 37-1 or 37-2)**. Adjustment is performed as part of the Tail Lift Load Testing procedure **(P/N 5-90020)** and recorded on Tail Lift Test Certificate **(P/N 5-90028)**. The instructions and certificate are supplied with the document kit.



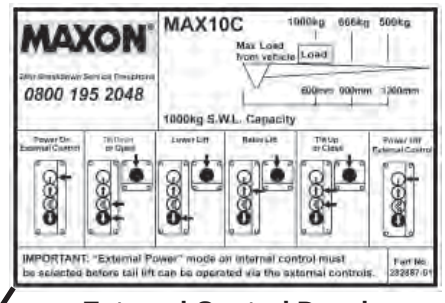
HALDEX POWER PACK PRESSURE TEST CONNECTOR & ADJUSTMENT (TOP VIEW) FIG. 37-1



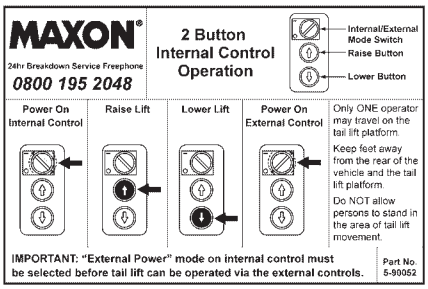
BUCHER POWER PACK PRESSURE TEST CONNECTOR & ADJUSTMENT (TOP VIEW) FIG. 37-2

ATTACH DECALS

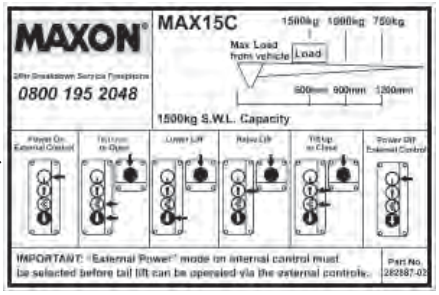
NOTE: Ensure there is no residue, dirt, or corrosion where decals are attached. If necessary, clean surface before attaching decals.


MAXON
MAX10C
1000kg 666kg 500kg
Max Load from vehicle
Load
600mm 900mm 1200mm
0800 195 2048
1000kg S.W.L. Capacity
IMPORTANT: "External Power" mode on internal control must be selected before tail lift can be operated via the external controls.
Part No. 282887-01

External Control Decal
(MAX10C ONLY)
P/N 282887-01


MAXON
24hr Breakdown Service Freephone
0800 195 2048
2 Button
Internal Control
Operation
Internal/External Mode Switch
Raise Button
Lower Button
Power On Internal Control
Raise Lift
Lower Lift
Power On External Control
Only ONE operator may travel on the tail lift platform.
Keep feet away from the rear of the vehicle and the tail lift platform.
Do NOT allow persons to stand in the area of tail lift movement.
IMPORTANT: "External Power" mode on internal control must be selected before tail lift can be operated via the external controls.
Part No. 5-90052

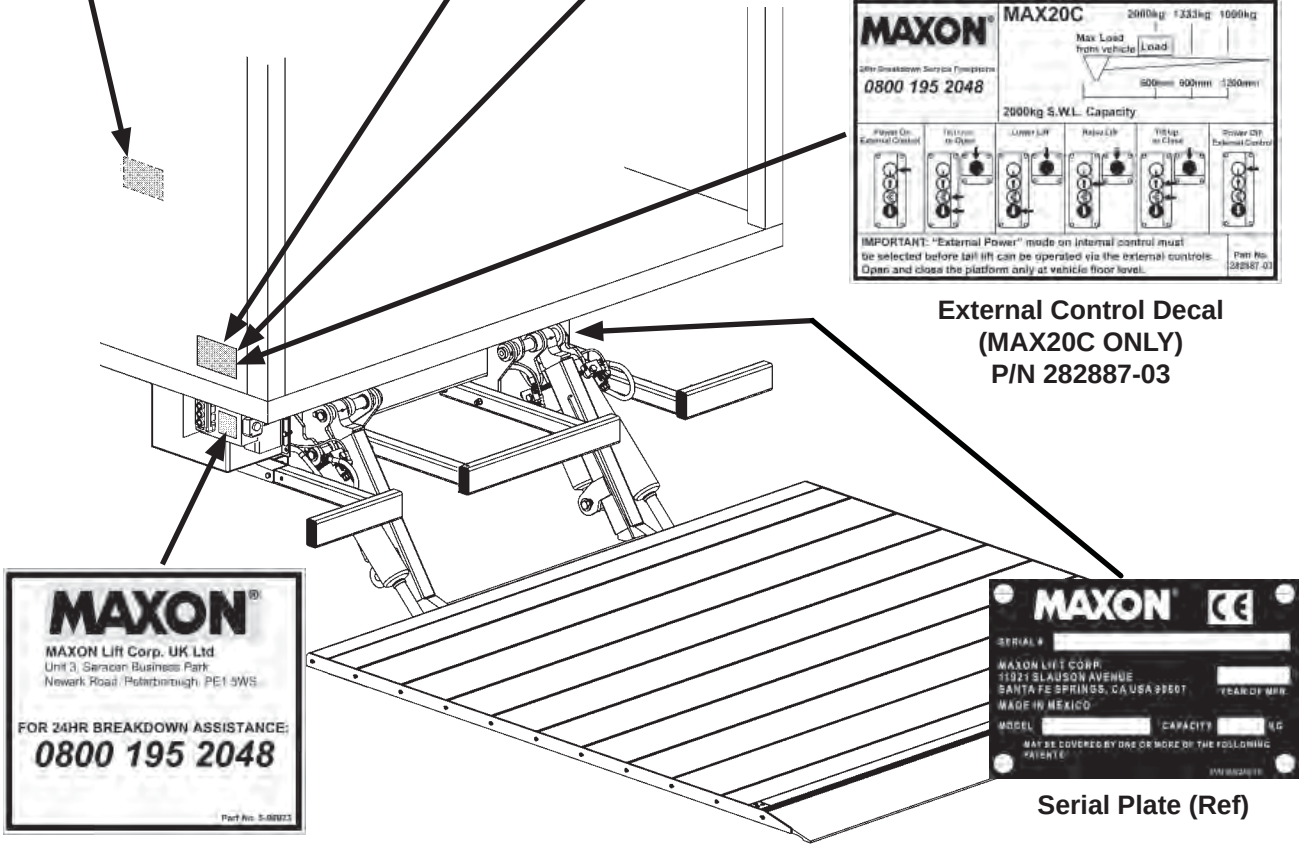
Internal Control Decal
P/N 5-90052


MAXON
MAX15C
1500kg 1000kg 750kg
Max Load from vehicle
Load
600mm 900mm 1200mm
0800 195 2048
1500kg S.W.L. Capacity
IMPORTANT: "External Power" mode on internal control must be selected before tail lift can be operated via the external controls.
Part No. 282887-02

External Control Decal
(MAX15C ONLY)
P/N 282887-02

MAXON
MAX20C
2000kg 1333kg 1000kg
Max Load from vehicle
Load
600mm 900mm 1200mm
0800 195 2048
2000kg S.W.L. Capacity
IMPORTANT: "External Power" mode on internal control must be selected before tail lift can be operated via the external controls.
Open and close the platform only at vehicle floor level.
Part No. 282887-03

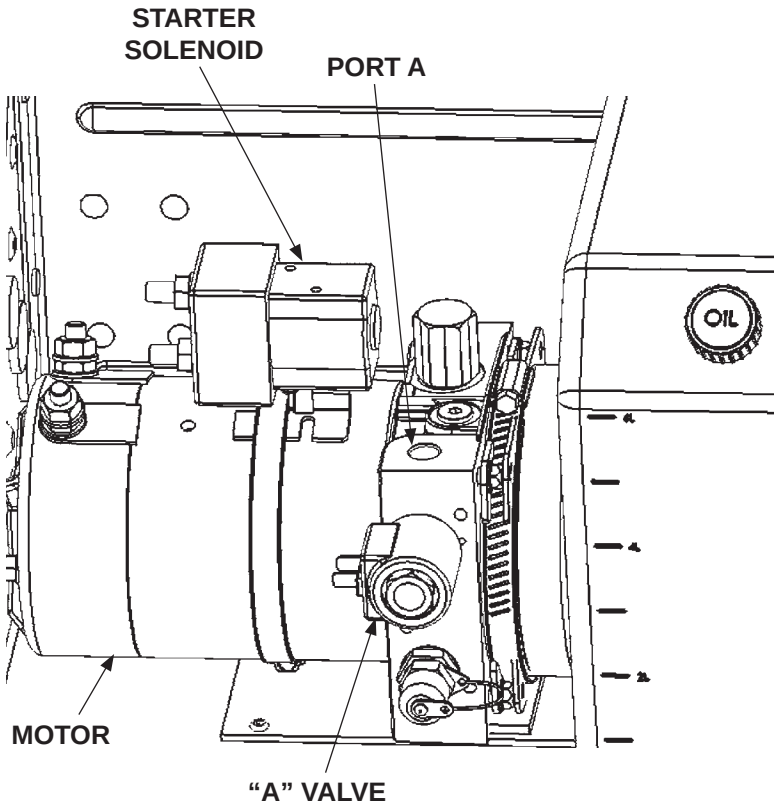
External Control Decal
(MAX20C ONLY)
P/N 282887-03



Serial Plate (Ref)

FIG. 38-1

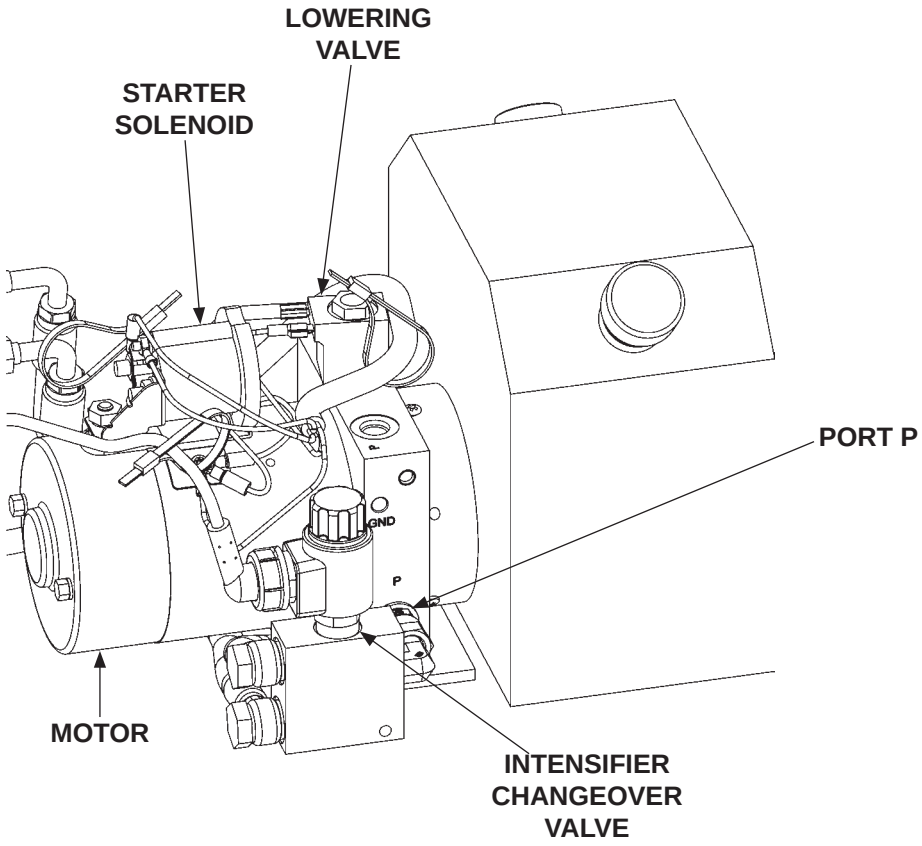
SYSTEM DIAGRAMS
PUMP & MOTOR SOLENOID OPERATION - HALDEX PUMP ONLY



POWER UNIT MOTOR & SOLENOID OPERATION								
TAIL LIFT FUNCTION	PORT	SOLENOID OPERATION (✓ MEANS ENERGIZED)						
		MOTOR	VALVE "A"	LOGIC VALVE LIFT-1	LOGIC VALVE LIFT-2	LOGIC VALVE TILT-1	LOGIC VALVE TILT-2	INTENSIFIER CHANGEOVER VALVE
RAISE	A	✓	-	✓	✓	✓	✓	-
LOWER	A	-	✓	✓	✓	✓	✓	-
TILT UP	A	✓	-	-	-	✓	✓	✓
TILT DOWN	A	-	✓	-	-	✓	✓	✓
REFER TO VALVES SHOWN ON HYDRAULIC SCHEMATIC - HALDEX PUMP ONLY								

TABLE 39-1

SYSTEM DIAGRAMS - Continued
PUMP & MOTOR SOLENOID OPERATION - BUCHER PUMP ONLY



POWER UNIT MOTOR & SOLENOID OPERATION								
TAIL LIFT FUNCTION	PORT	SOLENOID OPERATION (✓ MEANS ENERGIZED)						
		MOTOR	LOWERING VALVE	LOGIC VALVE LIFT-1	LOGIC VALVE LIFT-2	LOGIC VALVE TILT-1	LOGIC VALVE TILT-2	INTENSIFIER CHANGEOVER VALVE
RAISE	P	✓	-	✓	✓	✓	✓	-
LOWER	P	-	✓	✓	✓	✓	✓	-
TILT UP	P	✓	-	-	-	✓	✓	✓
TILT DOWN	P	-	✓	-	-	✓	✓	✓
REFER TO VALVES SHOWN ON HYDRAULIC SCHEMATIC - BUCHER PUMP ONLY								

TABLE 40-1

HYDRAULIC SCHEMATIC

NOTE: LOGIC VALVES ARE DOUBLE-LOCK SEAT, NC. FLOW RATE IS 19 LPM (5 GPM).

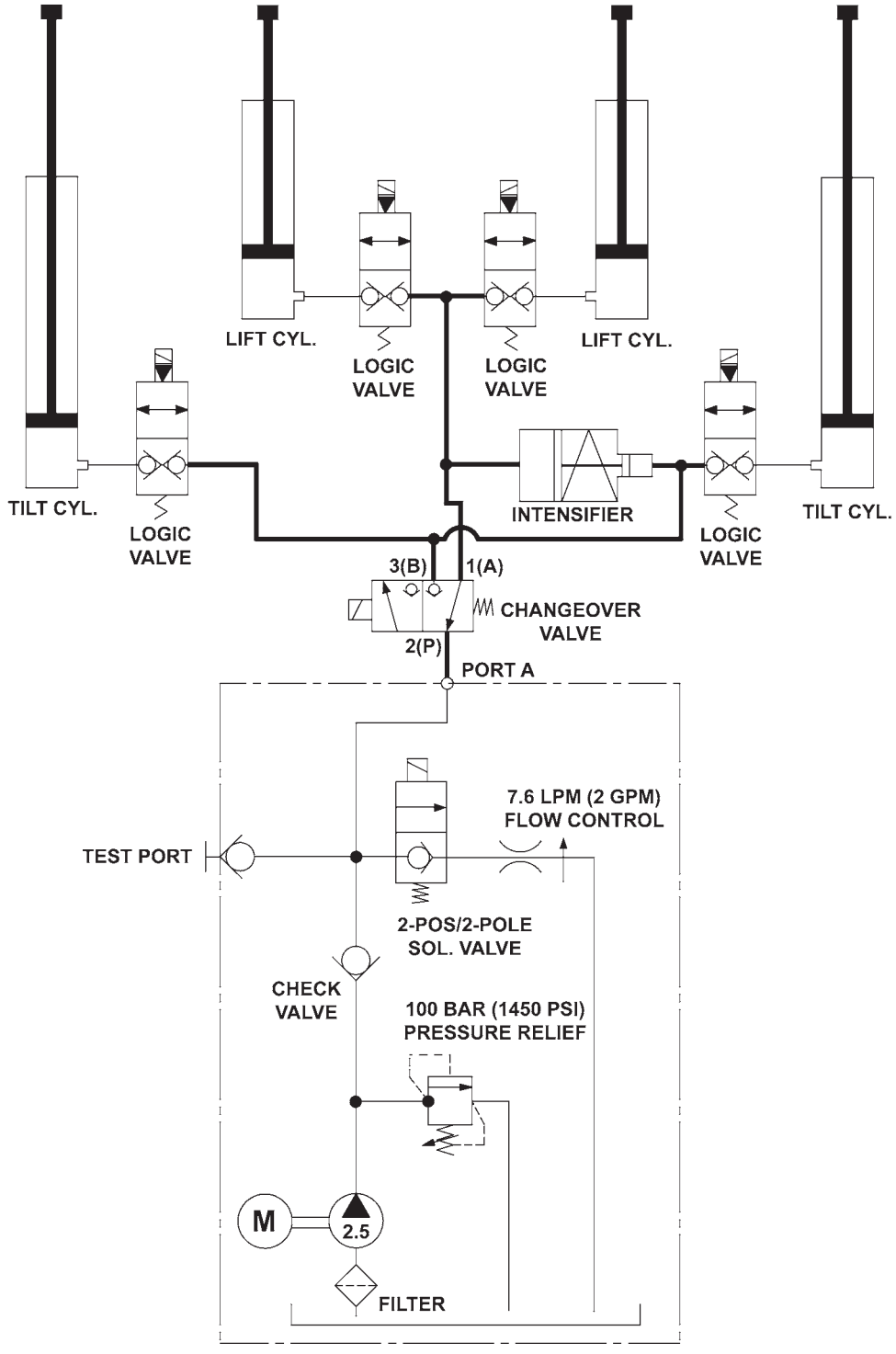


FIG. 41-1

SYSTEM DIAGRAMS - Continued
ELECTRICAL SCHEMATIC

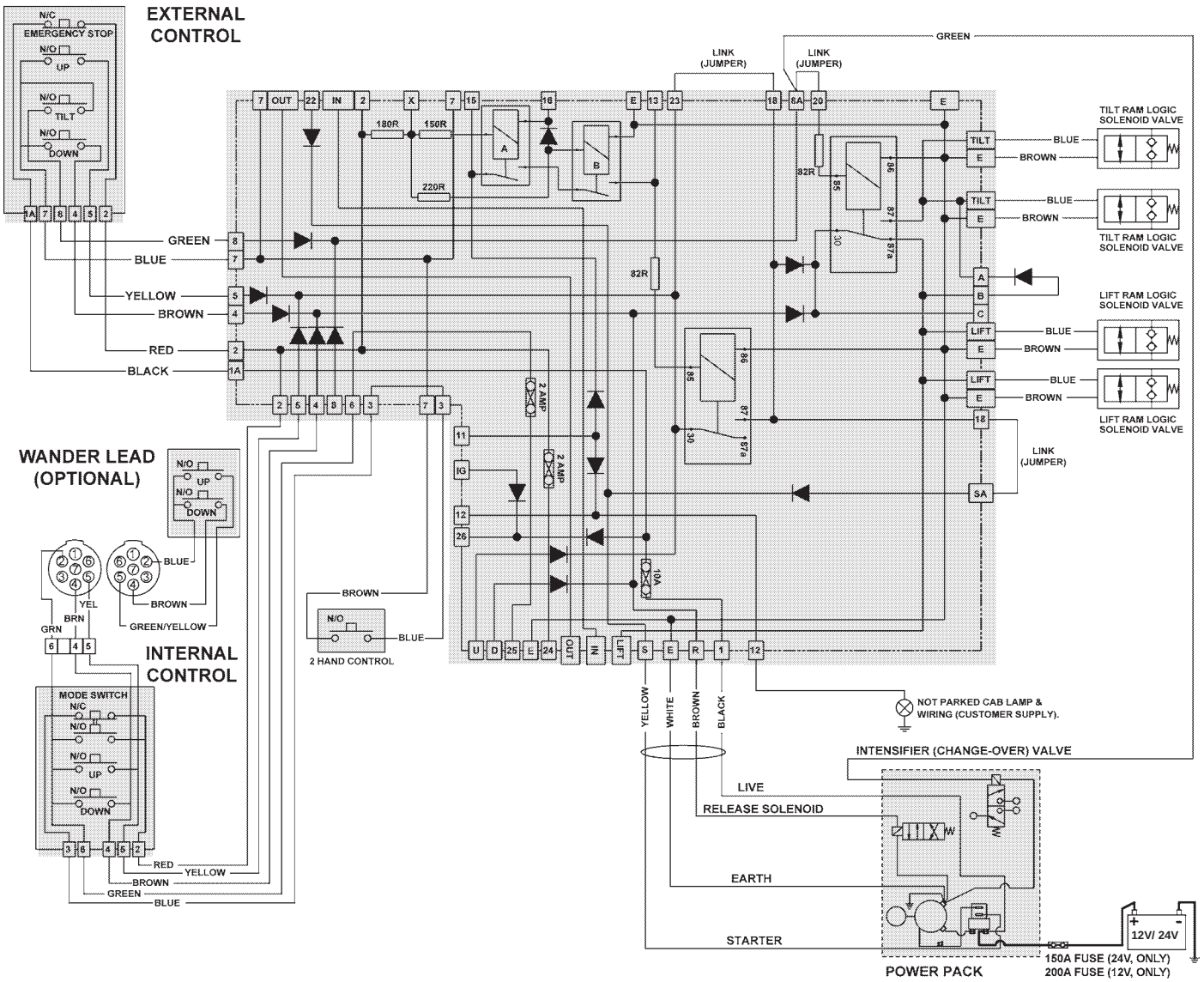


FIG. 42-1